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AND

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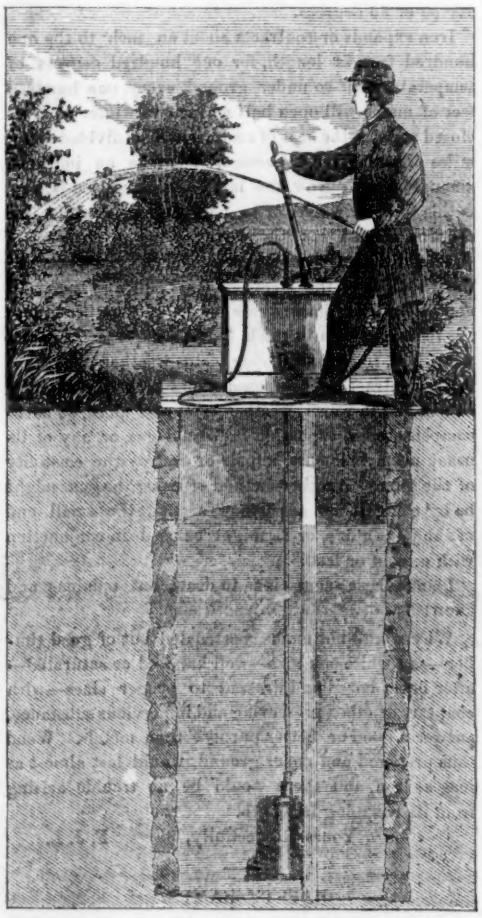
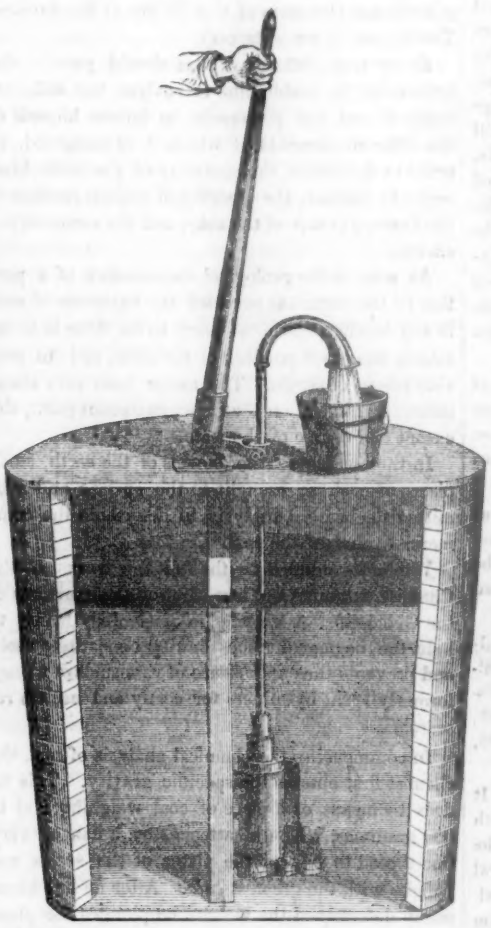
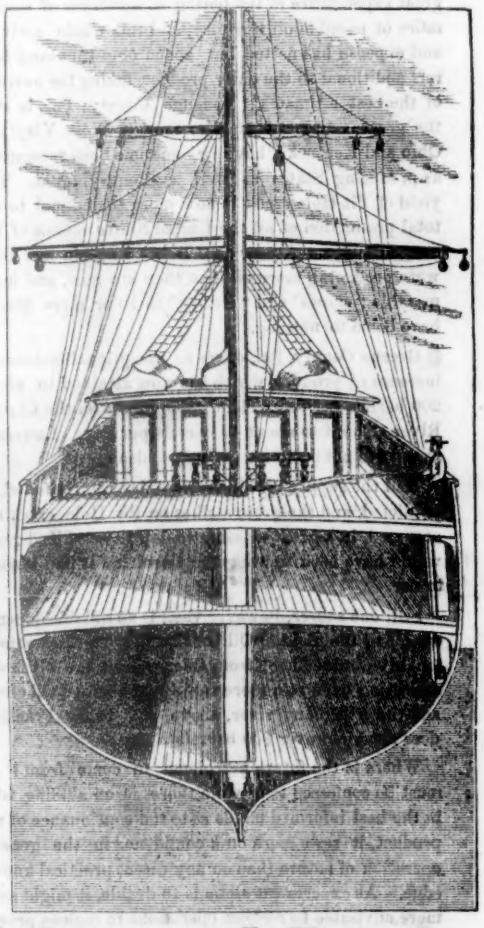






Recommendations of the American Submerged Pump,

OWNED BY THE AMERICAN PUMP MANUFACTURING CO., NEW YORK.

Office of the American Ship Building Company, New York, Oct. 24, 1864.

I am very much pleased with the economy and simplicity of the American Pump, which I have examined with much interest. IT IS ADMIRABLY ADAPTED FOR SHIP PURPOSES, and from its GREAT POWER would do incalculable service in the event of LEAKAGE. It also works well in pumping, where the cargo consists of grain in bulk, and is free in its action.

AUGUSTUS WALKER, Marine Constructor.

New York, October 26, 1864.

To the American Pump Manufacturing Co.:

I have examined with much interest the working and results of the Double Action Force Pump which you are introducing in the market. For use as a Ship Pump and for Mining purposes, I consider it of great value, the results far exceeding anything of the kind presented to my observation, particularly for its GREAT POWER and SIMPLICITY. It will give me pleasure to recommend its introduction into the Navy. Please deliver as soon as possible the Pumps ordered by me last week, for the Mines of the Middlefield Fire and Building Stone Company of Massachusetts, and oblige, Yours, respectfully, CHARLES B. STUART, Consulting Engineer, U. S. N.

Office of the Neptune Iron Works, New York, February 6, 1865.

To the American Pump Manufacturing Co.:

I was very much impressed in examining the Pump manufactured by your Company. The originality of the design is in good keeping with its simplicity of construction—certainly very desirable qualities in all mechanical combinations. The extensive demand is the best proof of the popularity and favor it is receiving from the public. I have no hesitancy in recommending it to the inspection of those wishing THE BEST PUMP in the country.

CHARLES HUBBARD, JR.,
Superintendent.

Office of Donald McKay,
East Boston, Aug. 15, 1865.

Alvin Walker, Esq., Sec. American Submerged Pump Co.:

DEAR SIR:—In answer to your request for my opinion of your Patent Submerged Pump, will say, that for simplicity, compactness and durability, it has the appearance of being the BEST mechanical combination I have seen, having fitness combined with its simplicity, making it SUPERIOR to Pumps now generally used for general purposes on land. Also, well suited as a Ship Deck Pump, and, in my opinion, can be arranged to be readily used as a good Bilge Pump for Ships.

Yours truly,
HRMAN WINTER

CAMP PAROLE, ANNAPOLIS, Md., April 22, 1865.

Wm. Numson, Esq., President, Baltimore:

DEAR SIR,—The No. 2 Pump has been properly adjusted, and works to our entire satisfaction. Hoping you may be successful in introducing it to the public, we remain,

Very respectfully, yours, &c.,
JONES & CROWLEY.

(Letter from the President of Board of Common Council, City of Boston)

Boston, August 10, 1865.

A. Walker, Esq., Sec. American Submerged Pump Co.—

Dear Sir—In reply to your request for the results of the trial of one of your Pumps, I will briefly state the purpose for which it was needed, and the complete satisfaction attained. It was desired to clean out a well 42 feet in depth, in which there stood 10 feet of water; I had previously vainly tried several methods, in one of which one large Force Pump and as many buckets as could be used, succeeded in 10 hours in reducing the depth of the water to 9 feet, but beyond that nothing could be gained. I then put in one of your smallest Pumps, which drained the well completely in SIX HOURS: although the spring which fed the well yielded a stream of water about as large as a man's arm. I need not say that I consider the Pump fully capable of accomplishing what you claim for it.

Yours truly,
W. B. FOWLE.

I can fully endorse the above statement. GEO. E. LINCOLN.

PETROLEUM.

THE FUTURE OF PETROLEUM.

We take the following from the *American Exchange and Review* for September.

All the facts that we can glean, indicate at least, some increase in the daily production of petroleum this year, as compared with the corresponding period of 1864, and an increase in the demand fully commensurate with the increased production. Yet the increase of yield is in connection with facts, which of themselves denote a falling off in the ultimate product.—Commerce will ever take up petroleum as a merchantable commodity, but as a productive industry, it continues to be a problem and a puzzle. The last twelve months have been a period of vigorous activity and great expenditure in the boring of hundreds of square miles of possible oil territory, and this whole activity and expense has netted but about one thousand barrels additional to the daily product, taking the average of the best estimates. Venango County, Pa., is still the great source of supply; though West Virginia, Ohio and Kentucky, have for sometime been recognised as producing States as well as Pennsylvania. The yield of Pit Hole creek is now more than equal to the total production of all the United States outside of Venango County. A year ago West Virginia and Ohio were producing more oil than they are now, and innumerable "shows" and "strikes," in 10 or more States, have come to nothing.

Greene County, Pa., offers an exceptional instance of increase of product, which has now attained to about 200 barrels per day. The developments on the Clarion River amount to about 40 barrels per day. Lawrence County is not up to its early promise.

Had the supply of Oil Creek valley utterly failed, as predicted, and the great strikes on Pit Hole creek not occurred, in a great measure to-day the civilized globe would have been wanting the petroleum it had learned to use.

Still one source, however vast, is no reliable dependence, and the yield of Oil Creek valley itself is unquestionably diminishing; from Cherry Run the oil is disappearing even at a more rapid rate than on Oil creek, and the Alleghany river, above and below Franklin, does not yield over 800 barrels a day.

Where is the future petroleum to come from? It must be confessed that while there is an abiding faith in the best informed minds as to the continuance of the product, it rests more on a confidence in the general operation of nature than on any direct practical knowledge. As experiment alone is to decide, it might seem more advisable to restrict operations to regions proved to be most productive—to have done for the present with testing unknown territory—and so with more reasonable anticipations of returns on the outlay of capital, the work can go on until all the advantages of greater experience are secured.

It is to be regretted that geology at present, is of little aid in the work. We are, however, arriving at some useful general conclusions, and if the field men of science could only definitely tell, even the real epoch of the formations examined, they would be of service.

Our best geological conjecture is that, as a general rule, the formation of oil preceded that of coal in the carboniferous, tertiary and cretaceous periods, no matter what disturbances may have associated oil with older rocks; that the oil bearing "Upper Devonian" rocks, so called, are really sub-carboniferous, that the vegetation from whose decomposition oil originated was that most highly composed of carbon, and not having the least proportion of this element; and finally, that wherever the structure and fossil remains mark inundations of the sea, or floods of salt water over land covered with plants that had been growing in the atmosphere above the waters, there are petroleum reservoirs or fissures.

In the case of anthracite coal, Pennsylvania presents the great exception of having workable beds; whether petroleum is another illustration of exclusive possession of available mineral wealth, remains to be seen. Certainly her strata west of the Alleghanies, geologically just below the coal measures but at various depths in actual occurrence—less where the coal measures are absent or interrupted—offer fields of exploration which are not likely to decrease in interest for some time.

GAS.

COMMERCIAL ANALYSIS OF COAL.

We translate from the "Eclairage au Gaz," under the title "Commercial Analysis of Coal," copied from the "Journal Le Gaz," a memoir read by Mr. Robert Gray at the annual re-union of the Engineers and Directors of Gas Works in Scotland.—The following are extracts:

Every manufacturer of Gas should possess the knowledge to enable him to analyze the different kinds of coal, and personally to inform himself of the different elements of which it is composed, in order to determine the quantity of gas each kind ought to produce, the quantity of sulphur contained, the heating power of the coke, and the nature of the cinders.

As soon as the geological examination of a portion of the earth has revealed the existence of coal in any locality, the first thing to be done is to establish the exact position of the mine, and to provide means of access. The miner then sets about informing himself on that most important point, the extent and course of the vein.

In thus searchin the bowels of the earth, small pieces of coal are brought to the surface and submitted to chemical analysis, to determine the commercial value of the coal.

While we admire to the full the works of the Chemist, we must not lose sight of the exertions of the Geologist. A knowledge of Geology brings to light the neglected riches buried beneath the soil, and prevents the expenditure of vast sums of money formerly spent by miners for costly and useless researches.

In commencing the chemical analysis of coal, the chemist first obtains the specific gravity. This he does by means of a piece of coal weighing 250 to 300 grammes, which he attaches by a hair or very fine thread to one of the plates of the scales, and weighs with the greatest care. After he has accurately determined the weight, he plunges the piece thus suspended into water and notes the weight lost by the coal while in the water, and dividing the first weight by the weight lost, obtains the specific gravity of the coal compared with water.

After having determined the specific gravity of the coal, it is important to ascertain by analysis, the quantity of volatile matter and coke contained in the specimen.

For that purpose, we take a small iron crucible with a hole in the cover, or better still, a Berlin earthern crucible with easily fitting cover. The coal is reduced to small portions of the size of a pea—65 grammes carefully weighed out and thrown into the crucible. This is now subjected to the action of the fire until the gas is completely disengaged. The crucible is then allowed to cool, the coke is weighed, and the weight lost by distillation represents the volatile elements.

Having thus determined the weight of coke and of the volatile gases, it remains to learn the heating power of the coke. For this I prefer a thin plate of platina with the edges raised to form a shallow saucer. I submit this to the flame of a Bunken burner until the carbon is completely consumed, leaving only the incombustible residue, or cinders, which are weighed carefully.

LEAKAGE OF MAINS.

WASHINGTON, Pa., Sept. 18th, 1865.

Mr. Editor ;—Almost all Gas Companies suffer great loss from leakage of their mains while the gas is being conveyed from the works to consumers. My object in this communication is to enquire from you personally, or through your paper from some of your experienced correspondents, whether this leakage is inevitable, and to be patiently tolerated, or whether some recent improvement in the mode of cementing or packing the joints, or the use of some other material than iron for constructing mains, less expansible and contractible with heat and cold, has been discovered and tested.

In our climate the range of Farenheit's thermometer is from 10 degrees below in winter, to 120 degrees above in summer—extreme range above ground, 130 degrees—four feet under ground about half as much, say 60 or 65 degrees.

Iron expands or contracts about an inch to the one hundred feet in length, for one hundred degrees of temperature—if so under ground, every one hundred feet of mains will open half an inch in winter from its closed state in the heat of summer. This divided along miles of mains, must necessarily waste an immense amount of gas. Now the interesting question is, how is this to be in whole, or in part remedied whilst we use iron mains?

Would the interposition of gum elastic rings between the shoulder of the sleeve of one main and the small end of the other joint where they come together in laying them, sufficiently thick to be compressed enough when laid, to expand during cold weather when the mains contract, to compensate and keep the opening closed, and in warm weather compress more, so as to compensate for expansion? Would gas, or any of its usual acompaniments, impair or destroy the elasticity of the gum? Another method of using the gum might be by using it as a packing around the small end of he joint alone, or it might be used in conjunction with cement or lead.

I make these suggestions to draw out opinions and knowledge of more experienced men.

Why would not mains constructed out of good timber—say white-oak logs—well kianised or saturated—after being bored and dressed to proper sizes—with coal tar, or other preserving and impervious substance, answer a good or better purpose than metals. Wood thus prepared and under ground, would last almost as long as iron, and there would be no trouble arising from its changing in length.

Yours Respectfully, F. J. L.

SAFETY LAMPS.

The "Journal Le Chimiste" of Brussels, says:

It is well known that the safety lamp is used in mines to preserve the workmen from the explosion of gases—but in other branches of industry and in domestic life, this lamp is completely neglected although its use would prevent many a conflagration and many accidents.

A frightful catastrophe has occurred in Chaumont. The servant of a wine merchant and dealer in spirituous liquors, was engaged in one of the vaults in altering the position of a vessel. His mistress coming in with her nurse, perceived that he was losing the liquid, and remarked it to him. The servant wishing to verify the fact, brought a lighted candle near the cask, which at once took fire. In the movement which he made the fire gained his sleeve, and immediately enwrapped the two women, who filled the air with their shrieks. At this desperate appeal, a dozen neighbors, listening only to the promptings of attachment, rushed in, arriving unfortunately at the very moment when the cask, which the servant was endeavoring to raise on end, burst, throwing upon all of them a shower of burning liquid. Of fourteen persons that were injured, eleven have died.

Behold the effect of an act of imprudence which is daily repeated, though fortunately not always with such fearful results Is it not terrible to think that this catastrophe could have been rendered impossible

by the use of a single safety lamp, which would cost only five or six francs!

We do not understand, adds Le Chimiste, why all persons whose business compels them to handle inflammable liquids such as alcohol, ether, benzine, etc., do not procure for themselves a safety lamp such as is used in the mines. The most volatile and most inflammable liquids, as experience has shown, can be safely manipulated with such a lamp.

As to the quantity of light which can be obtained from a safety lamp, we comprehend that the old lamps of Davy would be insufficient, but with a lamp covered with glass, especially that of M. Cavenaile, as much light can be obtained as is desirable—further than this the number of lamps can be increased.—*Eclairagé au Gaz.*

WATER.

SUPERIORITY OF AMERICAN WATER WORKS.

We extract from the *London Builder*, the following article, in which is set forth the very great superiority of our system of Water Supply over that now adopted in England. The Editor says:

In one respect the Americans are far beyond our usual limit of attainment, and that is in the completeness of their arrangements for water supply, and in their various apparatus for heating. It is a common practice in estimating, to allow one-fourth of the gross outlay for the plumber's work of an average private house in New York, Philadelphia, or Boston; whilst many houses considerably exceed that liberal limit.

Master plumbers complain, in many of our towns, that their best hands leave them for the States—and it is certainly the fact that the workmanship to be seen there, is such as to justify the belief that the highest skilled labor must be greatly in demand. In all the large towns, the abundance and purity of the public supply of water renders every householder desirous to secure his share of the benefit. The Croton aqueduct, that supplies New York, does its duty magnificently; and though complaints of waste have obliged the authorities to be somewhat more sparing of the flow than heretofore, London is at present far behind its Yankee rival in this respect. New Yorkers claim great praise for their sewerage system also—but upon this it is not now proposed to dwell.

Every house of even moderate pretensions has at least one bath-room, well supplied with hot and cold water; and if every bedroom be not supplied, at least all upon the principal floor are so. Usually the pipes are all in sight, neatly finished and fastened upon an oak, walnut, or mahogany strip, with the joints and holdfasts japanned, and the pipes themselves clean and bright; this arrangement of course is made so as readily to get at and repair leaks, which the capricious frosts of early winter make somewhat probable. To guard against such, however, various contrivances, more or less successful, are resorted to, none seemingly more efficacious than an arrangement by which a continuous circulation throughout each length of pipe is obtained, with at the same time such a plan adopted of laying out the work, that all nearly horizontal pipes have a dip towards the outlet, so as readily to empty themselves—and by allowing no bends to be of such a curve as to retain water when it is required to have them free.

The hot-water supply is obtained by a simple apparatus, which seemingly is not known commonly to our plumbers. In describing it, it will be necessary first to remark that all houses have a receiving cistern in the upper part of the building, to render the pressure on the pipes equal, and the supply steady.

From this a cold-water pipe descends to the kitchen, beside the range in which the apparatus for heating the water is placed. This consists of a large upright copper cylindrical boiler, generally containing thirty to forty gallons, and sometimes considerably more, the water within which is kept at nearly boiling point, by being coupled with the fountain, or water-back, at the back of the range. In this upright boiler a coil of pipes is compactly laid against the inner surface, and this coil, connected as it is with the cold water pipe, receives cold water at the upper end, passes it through the coil to the bottom of the boiler, and then repeating the curve passes it up again in the shape of hot water, ready to be drawn whenever needed, a hot water pipe connecting this with the bath-room, &c. &c. The water in the coil, by thus slowly circulating, becomes of the same temperature, nearly, as the water within the boiler by which it is surrounded—all that is necessary being to observe that the cold-water or supply pipe and the coil must be greater in diameter than the return hot water or exhaust pipe. The cistern being at a proper elevation, the hot water will rise to as high a point as the natural law allows; and the advantage of this simple plan is, that the upright boiler being open, no steam is generated, and there is no danger in its use. This system also gives a large and constant supply of hot water ready to be drawn for domestic use on the spot.

The boiler is, of course, self-feeding—and it is an excellent feature of the best American cooking-ranges, that they heat this large supply of water without increased consumption of fuel.

For the supply of cold water for drinking purposes, a hydrant is attached in some one of the kitchen offices, connecting with the main, and passing the water through a filtering apparatus, which is generally connected also with the large refrigerator that contains the daily replenished stock of ice; thus giving the luxury of cooled water in abundant flow.

In some respects all these conveniences of plumbing have been over-done, and visitors are often fairly bothered in some houses and hotels with the niceties of the apparatus with which their lavations are to be rendered easy. Frequently a marble slab basin, or an enamelled bath is seen with invisible inlet or outlet for water, and only a fancifully enriched plated knob, perhaps over the centre of the affair. In perplexity this is pulled at, but it will not draw out. A lucky turn to the right sends a rush of hot water streaming into the basin or bath. This is soon too hot, and you look in vain for some frindly tap of a cooler element. Another turn of the knob, and, with a gurgling swirl, the water as quickly disappears, and all is empty, whilst vexation and embarrassment disturb all ideas of comfort. At last the mechanism is conquered—but the toy is so perplexing, and proves so costly to keep in repair, that the sturdy old bib-cock, sooner or later, makes itself warmly re-welcomed.

GALE'S GLASS PROTECTED GUNPOWDER.

A writer in the *London Mining Journal*, referring to Gale's glass protected gunpowder, after animadverting upon the greatly increased expense of preparation, storage, and transportation, continues—

"In the first place, powdered glass not only attracts moisture, but is decomposed by the action of the atmosphere, and the amount of the moisture absorbed and the rate of decomposition varies with different kinds of glass, consequently glass will not, as the patentee states, preserve the gunpowder perfectly dry, but the contrary. Secondly, the process of mixing the powder with the glass must necessarily scour off a portion of the surface of the powder, and the subsequent process of sifting must detach still more, the entire loss being, as before stated, at least one-sixth, but the quality of the gunpowder will be materially affected by any portions of glass which may remain. This process would involve, therefore, the necessity of employing not only very efficient sifting machinery, but the most careful hands to conduct the operation, and an amount of light which in some cases would be perfectly unattainable.

There are two great conditions, and the very two for which the invention professes to be peculiarly adapted, would seem to show its impracticability—on board ship and in a military campaign. In the former case, not only will five times the magazine room be required, but a commodious place and efficient machinery for sifting the powder as fast as it would be wanted in an action; and, in addition, a laboratory or room where a corps of experienced hands must be employed to make up the loose powder into cartridges, which have to be weighed or measured with the greatest accuracy, otherwise the ranges would be a matter of the most random uncertainty, and precision of firing totally out of the question. When it is considered that hundreds of persons are daily employed at the different Government laboratories, simply in preparing these cartridges, with every appliance, and under the most favorable circumstances for the attainment of accuracy, it will be easily seen how perfectly impossible it would be to conduct such operations on board ship in the heat of an action—and if the operation were even practicable, how frightfully dangerous would be the sifting, turning out, and measuring up quantities of loose powder by inexperienced hands, and in a part of the ship necessarily lighted by artificial means. The patentees can hardly, I think, have given this phase of the subject their mature consideration. In a military campaign, six times the weight of gunpowder would have to be carried, requiring, therefore, six times the number of appliances and resources, in the form of ammunition wagons, horses, and their attendants, commissariat, and, in fact, all the adjuncts of artillery transport. There also would be required what would not so easily be obtainable, especially in rainy weather—the means of keeping the powder dry during the process of sifting and the manufacture of cartridges, for these, it must be understood, can on no account be dispensed with; they are the most essential, and, indeed, the only form in which the rifle or artilleryman can use his powder, yet this must be done if the protected powder is to accompany the army. Here also are the same objections with regard to danger—viz., the unavoidable exposure of loose or wet gunpowder in large quantities to the manipulations of inexperienced hands.

It appears to me, then, that in order to render the gunpowder inexplosive, or safe for stowage, it has first to undergo an operation which I think all who have anything to do with gunpowder will admit is alone fraught with more danger than all the risks to which that same gunpowder would be exposed if left to its ordinary fate after manufacture; and should it escape unscathed in the first process, where care and judgment would necessarily be employed, it would have a much more severe and dangerous ordeal to pass through, in being reconverted to its pristine explosive condition, under circumstances where care, judgment, and provisions for safety are out of the question.

A BAPTISM BY ELECTRICITY.

During a drill of the cadets at West Point, a short time since, the battalion had an electrical baptism. A cadet communicates to the Hartford Times the following account of the singular occurrence:

The weather looked very much like a thunder shower, still not a drop of rain fell on the Point; we had just countermarched in column and the battalion was at a support arms—which you know, is with the gun resting on the hammer on the left arm, the muzzle pointing some distance above the body.

I happened to be looking up at the time, and saw a large, dense, black cloud hovering overhead, when suddenly there was a very vivid flash and a loud report at the same time, the report resembling that of a shell exploding, having none of that rumbling peculiar to distant thunder. My first impression was, as I knew they were firing across the river, that one of the guns had burst and the shell had taken a crooked path, as it often does under such circumstances, and had burst overhead. I involuntarily ducked my head for falling pieces. This all passed through my mind on the instant, and you know how quickly one thinks under such circumstances.

Of course, when I saw the guns flying out of the men's hands, and felt a numbness in my arms, I knew what was up, or rather what had come down. Quite a number of men were stunned so that they went reeling around for some minutes, and one man (a yearling) was knocked senseless. I thought at first he was a 'goner," but they took him out on the plain, poured water on him, rubbed him, &c., and he came to in about fifteen

minutes, when they took him to the hospital. Next day he was all right, except a little weak.

Col. Black was also struck, knocking his horse down on his knees, and frightening the "animile" somewhat. I suppose the reason the cloud discharged itself was that it was quite low down, and was strongly attracted by the conducting surface of about two hundred bright gun-barrels, all pointing vertically upwards. Had it been only a small body of men, say guard-mounting for instance, I suppose it would have been more destructive. As it was, it seemed to have diffused itself over the whole corps, as almost every one in the battalion felt it more or less, and in every company a dozen or more guns were knocked out of the hands of the owners. On the whole I think it was a pretty good electric experiment, though I shouldn't care about trying it over again.

ELECTRICAL SCIENCE.

Among the many ingenious inventions which have been called into being by the necessities required in manufacturing and laying the Atlantic cable, none perhaps is more simple, beautiful and perfect, than the arrangement devised by Professor Thompson, the scientist of the telegraph company, for measuring the rate of leakage of the electric fluid from the charged cable.—This is accomplished by what is known as a torsion balance, an instrument for estimating very minute forces by the motion of an index attached to the ends of two very fine wires on threads which twist around each other. The index in this case is a very minute steel needle, the slightest motion of which is exagerated ad libitum, by the simple device of attaching to the needle a mirror, which reflects the light of the lamp on a scale placed at a distance, showing a little line of light which traverses many inches, while the index needle makes a movement scarcely appreciable to the naked eye. The most trifling leakage, for hundreds of miles of cable, may thus be detected, and almost the precise point of escape indicated by the operator. So exquisitely delicate is this test, that while the cable was being manufactured a minute flaw in one of the four coatings of gutta-percha was detected, and its locality, within a few yards pointed out, so that the length within which it occurred was cut out. So intricate and multiform have the devices of the artisan become, in these modern times, that it is now almost a sine qua non that science should go hand in hand with art in nearly all our daily avocations.

ORIGIN OF STOCKINGS.

The stockings worn by the ancients consisted of strips of linen, or the skins of animals. The Normans wore them made of cloth, or of costly stuff, embroidered and decorated with gold and silver. Knit worsted stockings were imported first in the time of Henry VIII., and were worn by the gentry of that period—and in 1530 a pair of silk stockings was sent to that monarch from Spain. In the time of Queen Elizabeth it was common for young men of rank to wear stockings of different fashions and different colors on each leg. In 1561 the first pair of silk stockings were knit in England, and were presented to the Queen. About the same period the method of knitting worsted stockings was brought to that country. In 1859 a machine for weaving stockings was introduced by Wm. Lee, and this laid the foundation of the extensive stocking manufacture now carried on in England.

CAMERON COAL.

THE CAMERON COAL COMPANY are now offering their superior BITUMINOUS COAL, at Elizabethport, Baltimore and Philadelphia, at low rates. It is unsurpassed for generating steam, Iron Founders, Blacksmiths, Gas Companies, and all other purposes for which Bituminous Coal is now used. As a fuel for grates it has no superior. It is almost free from sulphur. For terms apply at the office of the Company, No. 71 Broadway, Room No. 33.

Whether gold ever exists as an ore, or as sulphuret of gold, is a question of much chemical and metallurgical interest. In its combinations with pyritous minerals, the union is regarded rather as chemical than mechanical, and requires the elaborate treatment of sulphureted ores. This being the normal condition of the gold of Colorado, invention has been busy to secure at the reducing works, the extraction of a good proportion of the gold. So far has this been successful, that in instances, within 10 per cent. of the assay has been obtained. Some interesting facts have been developed tending to show that the gold in the ore, is not in a metallic state like in its mechanical union, and much of it is secured by condensation from a volatile condition.—Such processes more than double or treble the value of every Colorado claim.

We understand that energetic steps will be taken as soon as practicable by the Copalinshe Mining Company, to develop the resources of their property, by the use of the best processes known. These considerations give much and fresh importance to this organization. It has the basis for a magnificent enterprise. Within its grasp are millions of tons of the richest pyritous ore, says the American Exchange and Review.

M. Ernest Renan (the writer of the Life of Jesus, which has been placed upon the "Index Expurgatories," and burned summarily in many of the smaller towns of Italy and France, but received with indifference in Germany, which has long since passed the infancy stage of rationalism, represented by M. Renan,) has turned up in Egypt, says the American Exchange and Review. From this land of the Pyramids and Cleopatra, he writes he has discovered the precise period when Remeses reigned and the shepherd kings invaded the Delta. M. Renan scorns parchment—his eagle eye reads sermons in stones; he has wrenched secrets from the statues and columns that have defied the savans of all later time to decipher. As all his discoveries tend to accredit man with an infinitely longer history than the orthodox Christian believer is ordinarily disposed to record—it is not likely that M. Renan's second adventure in the sacred realms of thought will be more favorably received by the Christian world than his first.

It has been estimated that the ocean contains 160,000 cubic miles of magnesium—a quantity which would cover the entire surface of the globe, both sea and land, to a thickness of more than eight feet. In obtaining salt from sea-water, the residuum is largely magnesium. It constitutes 13 per cent. of magnesium limestone, a rock found in all parts of the world in enormous quantities. Three years ago all the chemists who had obtained it at all, had probably not obtained an ounce among them. One year ago its price was 112 guineas,—$500 in gold—per pound. Now, owing to improvements recently introduced, magnesium wire is sold at three pence per foot. It has been suggested that when it shall be cheap enough, vessels of war should be built of it, for whilst but little heavier than heart of oak, it is as strong and tenacious as steel.

Some interesting experiments have just been made at L'Orient, on board the French frigate Coligny, the object of which is to utilize the electric light in the sea. By means of a submarine reflector, the water was illuminated to a great depth, so that looking down from the deck, the fish could be seen in great numbers, swimming round the lamp, as in an aquarium. The light can be used to an advantage with diving bells, and also for signals.

Dr. Robert U. Lamborn, Secretary of the American Iron and Steel Association, in a letter dated June 9th, gives the following account of the great Michigan iron district:

"One-eighth of all the iron now made in the entire United States is dug from the mines of Marquette county, and yet, ten years ago a piece of Lake Superior copper was a curiosity to most of our practical metallurgists. With the completion of the Sault St. Marie Canal, which was opened ten years ago this month, the projects for developing the iron ore trade assumed a definite shape. The few tons of mineral that had been carted around the portage of the mouth of the lake, had proven its value, and the first year saw 1,445 tons sent below for smelting.

IMPORTANT NOTICE.

To Advertisers.—Our paper offers a superior medium as an advertising agent, to all those who manufacture or sell machinery or appliances of any kind for Gas, Mining, Water, Sewerage, the production or purification of Oils, &c. &c., not so much on account of a wide-spread circulation, as from the fact that it goes directly to the hands of those who are constantly using and requiring machines and improvements for these branches, and who look through our columns for information where to procure them. The class of people who read our paper not only peruse our pages of reading matter, but read the advertisements as well, for the reason that they are directly interested in all things pertaining to their business. We therefore ask, with confidence that we can do them justice, all parties having machinery or improvements of any kind for either of the objects to which our paper is devoted, to send in their advertisements and avail themselves of these advantages. It will be observed that our tems for advertisers are very reasonable.

There is now on Burning Springs, West Virginia, 350 wells, yielding or not yielding, chiefly the latter. About 20 of the wells are reported as productive, yielding from 1 barrel to 20 barrels per day.—the Van Winkle well, 210 feet deep, say 2 barrels per day; the Longacre well about 550 feet deep, pumping 15 barrels per day; the Weitzel well 3 barrels a day; the well of the West Jersey Company, 7 barrels a day; the Old Reliable 10 barrels.

The number of Oil Companies in Ohio, which received certificates of incorporation under the statutes of the State, for the six months ending on the 30th of June, was 191—the chartered capital is little over $50,000,000,

Borings for oil are in progress in more than one-third of the counties in the State. At present the daily production of the whole State is estimated at less than 500 bbls. Duck creek and its tributaries give about one-third of the product. The Mecca district produces now about 20 bbls. a day. There are 28 wells on Big run, Washington county. Some oil has been got out of two of them.

Again, all Western Asia and Southern Europe are panic-stricken by the ravages of the cholera, which appeared first among that immense throng of Pilgrims, which annually journeys through Egypt to Mecca and Medina. It has reigned triumphant in Alexandria and Cairo, decimated the dirty towns and villages, penetrated Sicily, established itself in Constantinople, and is already as far west as Ancona, Italy.

It will be seen that the number of companies organized under the General Mining Law of Michigan, passed February 5, 1853, is 246. Of this total number, about 200 are copper mining companies, the balance comprising iron and silver-lead companies. Of the 200 copper mining companies, about 140 are located in the Houghton-Ontonagon district which extends from Houghton, on Portage Lake, to the Wisconsin State line, a distance of about 120 miles, and which district now contains one dividend paying company—the National.

Novel Kerosene Oil Lamp.—Our attention was called to a new plan for illumination, called the "American Water-light lamp," offered for sale by Messrs. Wooster & Davis, No. 912 Arch street, Philadelphia.—The lamp proper, is like the common Kerosene oil lamp with a reservoir filled with water within the lamp, and wick, like the oil wick, coming from it and placed by the side of the oil wick. The object is to generate hydrogen gas and thus improve the ordinary illumination. We had no time to analyze the plan, but it appears to be a feasible one, and for heating purpose most valuable.

PETROLEUM REVIEW.

Sept 18.—Crude has been in moderate demand and steady at 32 to 33c. Refined is firm and in fair demand at 52 to 55c., the latter rate for white, and 70 to 72 for free.

19.—The market is moderately active and firm at 32½ to 33c. for Crude; 53 to 55c. for Refined in bond, the latter rate for White, 71 to 73c. for do. free.

20.—Receipts to-day, 3,731 bbls.; the market is heavy and lower; we quote Crude at 32c.; Refined in bond, 52½ to 53., and do free, 71 to 73c.

21.—There has been only a moderate inquiry for Crude during the past two or three days, owing to the scarcity of vessels to load for Europe, prices were weak and at the close heavy at 31½ to 32c. Refined in bond is scarce, in demand and firm, closing at 52 to 54c. Free oil is quiet at 70 to 72c. At Philadelphia there were twelve vessels loading for Europe.

22.—The market is inactive and prices are nominal at 32c. for Crude, 50 to 52c. for Refined in dond, and 70 to 71c. for Refined free.

23.—The market is dull, and prices are nominal at 32c. for Crude; 52c. for Refined in bond, and 70c. for do. free.

25.—Crude is dull and heavy at 31½ to 32 cts. Refined in bond is firm at 52½ to 54 cts. Refined, free, is dull at 70 to 72 cts.

26.—The market for Crude is dull and heavy at 31½ to 32 cts. Refined in bond is firm at 52½ to 54 cts. Refined free is inactive at 70 to 72 cts.

27.—The market is quiet, but prices are without essential change. We quote crude at 31½ to 32 cts. Refined in bond at 52 to 54 cts. and do. Free at 70 to 71 cts.

28.—The market is very dull, and prices are nominal; we quote Crude at 31½ cts. Refined in bond, 52 to 54 cts. and do. Free at 70 to 73 cts.

29.—The demand has been fair, and the market a shade firmer, sales of Crude at 32 cts. Refined in bond, 52 to 54 cts. and do. Free 70 to 72. cts.

ATMOSPHERIC PRESSURE AS A SOURCE OF MECHANICAL POWER.

The *Journal of the Franklin Institute* has a series of articles under this title, supposed to have been written by Mr. Ewbank, formerly Commissioner of Patents, advocating the combination of a high pressure engine with a very low pressure engine, the same steam to go through both engines. It is also proposed to drain the condenser by a pipe descending thirty-six feet below the bottom of the condenser, and dipping into a vessel, so that the water should not run entirely out of it. A small air-pump would then serve to keep a vacuum. The use of ice is recomended for condensation because "the advantage of ice for internal condensation arises from the fact that air combined with ordinary water is discharged in the act of freezing, hence there would little air to pump out."

Be neither lavish nor niggardly—of the two avoid the latter. A mean man is universally despised, but public favor is a stepping-stone to preferment; therefore, generous feelings should be cultivated.

THE STONES OF THE TEMPLE.

The marble stones which composed Solomon's Temple were said to be forty cubics long, twelve thick and eight high. Supposing a cubic to be eighteen inches, which is the lowest estimate, they would be sixty feet long, eighteen feet thick, and twelve feet high. And supposing a cubic foot of marble to weigh 2,707 ounces one of these stones weighed 2,752,038 pounds and 12 ounces. And supposing one man to be able to raise 200 pounds, it will require 13,760 men to raise one of these, and also a little boy who could raise 38 pounds 12 ounces. And suppose one man to require a square yard to stanp upon, it would require 2 acres, 3 roods, 11 perches and 12 yards for them to stand upon while raising it, besides a place for the little boy to stand. What floats must have been necessary to carry them across the sea to Joppa! And what kind of teams, as well as wagons, do you suppose they had to carry these stones from Joppa to Jerusalem, which is about thirty miles, and a mountainous country? And what skill was necessary to square and dress these immense stones, so that when they were brought togother they fitted so exactly that they had the appearance of being solid stone.

RESTORATION OF THE MARCIAN AQUEDUCT.

"The restoration of the Marcian aqueduct is now passing out of the region of possibility into that of probability, and its execution will be very much facilitated by uniting the necessary levelling works with those of the Tivoli Railway, the execution of which is now entrusted to the Marquis Lavaggi. The principle adopted is that of bringing the pure water of the Marcian springs to Rome in iron pipes, following the direction of the ancient aqueduct in the upper valley of the Anio, and that of the railway from Tivoli to Rome. Operations are to be commenced in September, and Mr. James Shepherd, the director of the Anglo-Roman Gas Company, has gone to England to organise the aqueduct company, and to order the required quantity of pipes. The high level of this spring will allow of its waters being supplied to all Rome, even to the upper stories of the Quirinal Palace, and its abundance may be conceived by comparison with the Trevi water, whose volume is measured at 180 in., whereas the Marcian water can boast of a flow equivalent to 4,000 in."

New Fire Annihilator.—A number of scientific gentlemen in England, have been witnessing experiments at Mr. Willing's premises, King's cross, with a new fire-extinguisher, the patent of Dr. Carlier & Mr. Vignon. A huge fire was lighted three times, each more powerful than its predecessor, and a man with one of the machines, it is said, completely mastered the conflagration in a few seconds. The machine is portable, and costs from £4 to £6. It is always charged; may be slung upon a person's shoulders; and can be used by a child. The charge simply consists of a large seidlitz compound; and, the vessel being air-tight and capable of bearing a pressure of 150 lbs. to the inch, the liquid containing the gas can be projected to a considerable distance. The experiments were deemed satisfactory.

How to get to Idaho Territory.—A correspondent writing from Idaho City states that the best wayto reach that place is by crossing the plains. The journey may be performed in as short a time as it takes to come by water, the landing place, (Fort Benton,) being seven hundred miles from Idaho City. An emigrant, if he does not care to come by stage, should buy a couple of mules or horses, and load one with his effects and ride the other. It is not advisable to try to cross alone, but get in with a party of ten or a dozen persons, and then the trip can be made easily and pleasantly in thirty or thirty-five days from the Missouri river.—*St. Louis Republican.*

Base all your actions upon a principle of right—preserve your integrity of character, and in doing this never reckon on the cost.

Remember that self-interest is more likely to warp your judgment than all other circumstances combined—therefore look well to your duty when your interest is concerned.

It is said that the Emperor has received $128,000 for the copyright of the first volume of his "Life of Caesar." He has reserved $8,000 for his share and given away $120,000 to his different co-laborers.

PRODUCTION OF STEEL BY MEANS OF GASES.

M. Aristide Berard brought before the Academy of Sciences, at its sitting oi June 26, his method of forming steel by means of gases. It consists in alternately oxidising and reducing cast-iron in a furnace suited to the purpose. The oxidation is produced on one portion of the cast-iron, by the introduction of atmospheric air, and the reduction on another by a mixture of hydrogen and carbouic oxide, previously freed from sulphur. After twelve or fifteen minutes the processes are reversed, the portion subjected to oxidation being submitted to reduction, and *vice versa*. Any oxygen evolved is absorbed by burning coke placed in a suitable position. When this alternate action is found by trial to have been continued long enough, the operation is stopped, decarbonation being the terminating proces. During oxidation the bases of the metals proper and of the earths are oxidated—the sulphur, phosphorus, &c., form acids, and escape. During reduction, the iron is brought to the metallic state, and the earths separete as scoria, any remaining sulphur, phosphorus, &c., being eliminated as acids, and some carbon is restored to the iron. A high temperature is produced during oxidation, a low during reduction. Ten or twelve tons are manipulated at each operation in the establishment which has been formed by the inventor—and the steel produced is said to have all the properties of the ordinary kind.

A recent English journal states that the quantity of coal annually raised in Great Britain, is rapidly approaching the enormous amonnt of 10,000,000 tons.—According to the last return of the inspectors of coal mines, the quantity raised in the year 1864, was 95,125,919 tons. It adds that this quantity exceeds the productions of all the world beside, excepting, perhaps China.

It is said that between 1836 and 1864, 26 years, 73,356 persons emigrated to this country from Norway.—This emigration first became considerable in 1849, and reached its maximum in 1861. Two-thirds of these emigrants went to Canada. From 1820 to 1860, 5,530 persons came here from Denmark, and from 1851 to 1860, no fewer than 14,865 left Sweden for the same destination. It is believed that this emigration has been the result not so much of poverty as of religious excitement. A large number of the emigrants, it is noted, were Quakers, Mormons, or members of other peculiar sects, and nearly all those from Denmark were converts to Mormonism.

A Warsaw journal announces that the plan for a telegraph line between Russia and America has been approved and signed by the Czar. The Russian Government undertakes to complete the line as far as Nicolajewsk, the remaining portion—from Nicolajewsk to San Francisco—being at the charge of the American Company. The capital of the latter amounts to 10,000,000 dollars, and bonds representing 8,434,600 dollars have already been issued. It is intended that this route shall be finished in five years.

If a train moving at the rate of twenty-five miles an hour were stopped instantaneously, the passengers would experience a concussion equal to that of a body falling from a height of nineteen feet—they would be hurled against the sides of the carriage with a force equal to that they would be exposed to in falling from a window on the second floor of a house. If the train were moving at the rate of thirty miles per hour, they might as well fall from a height of three pair of stairs, and an express train would, in point of fact, make them fall from a fourth story.

Let your expenses be such as to leave a balance in your pocket. Ready money is a friend in need.

A wave on which many a poor fellow has been carried away is the wave of a lace-edged cambric handkerchief.

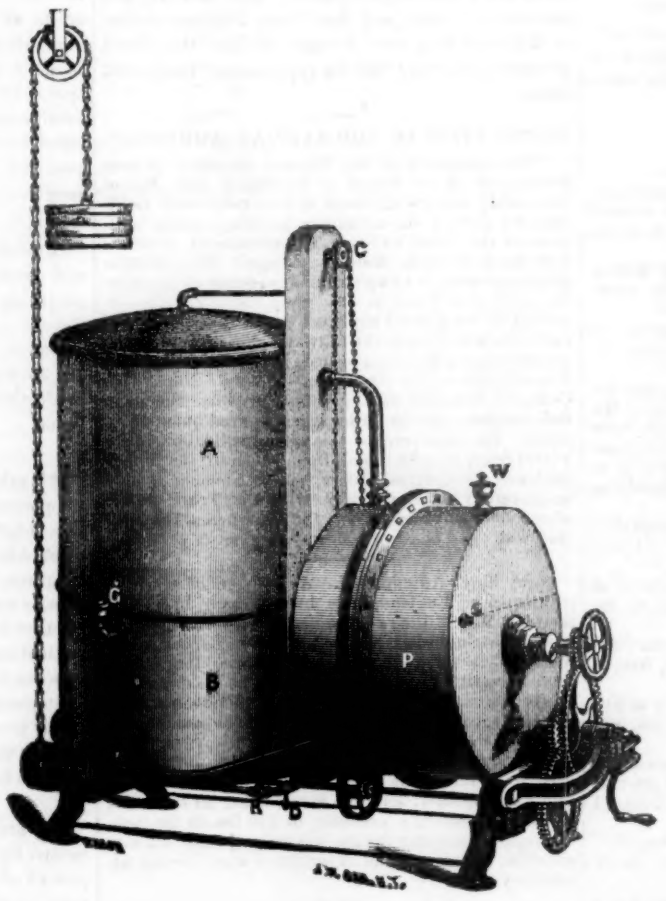
EMPIRE STATE GAS MACHINE,

LEVI STEVENS' PATENT, FOR SUPPLYING,

Dwellings, Stores, Factories and Public Buildings.

THE GAS GENERATED BY THIS MACHINE

Is a mixture of the vapor of hydro-carbon with common air. The mechanical devices employed are such as, from a long experience and critical examination into the nature of the elements brought into use, seem best adapted to secure a certain and satisfactory result. GASOLINE, the liquid employed, is the more volatile portions of Petroleum, of a specific gravity of 0.6587. This liquid exposed to the action of this machine is vaporized, and a close mechanical mixture of the vapor with common air is effected. The value of the gas produced, its permanency, its illuminating quality, and freedom from liability to condensation, depend almost entirely upon the perfect and uniform character of this mixture. Hence the great importance of mechanical means adapted to secure all the conditions requisite in a Portable Gas Machine.



CASH PRICE-LIST OF MACHINES COMPLETE;

(Boxed and delivered on the cars at the Manufactory.)

No. 1,	$150,	5 Argand Burners.	
do. 2,	250,	10	do.
do. 3,	350,	20	do.
do. 4,	450,	35	do.
do. 5,	600,	60	do.
do. 6,	1,000,	125	do.
do. 7,	1,500,	250	do.

This machine will produce the most brilliant and steady light, without Fire or Heat, and is warranted to operate in every respect as represented.

The EMPIRE STATE GAS MACHINE is the most SIMPLE and EFFECTIVE MEANS KNOWN FOR PRODUCING GAS WITHOUT HEAT.

Its action is automatic, feeding itself with constant supplies of Gasoline, thus securing steady and uniform supplies of Gas. The gas produced is equal to the best known Illuminating Gas. It is as economical as any other, and is adapted to a wider range of use for Lighting, Heating and Mechanical purposes. It will maintain its illuminating power under as great a degree of cold as any other. It is free from danger with the ordinary care in using gas. Its remarkably pure and steady light is pleasant for the eye. It renders it easy for persons living remote from street gas pipes to enjoy the luxury of a pure GAS-LIGHT, at a COMPARATIVELY SMALL COST, AND WITH LITTLE TROUBLE.

☞ The public are invited to witness its operations at our store. GASOLINE will be supplied by us, at market prices, or may be obtained from the various other sources of supply now going into operation.

MITCHELL, VANCE & Co., 620 Broadway, New York,

Manufacturers of Chandeliers and Gas Fixtures of every description. Also, Chandeliers, Brackets, Lamps, &c., for Coal Oil, adapted to Churches, Public Buildings, Dwellings, &c.

GLYCERIN

For Wet Meters, Gasoline Machines, Hydraulic Presses, &c.

We warrant our Glycerine free from acid and not to corrode the Meter metal, or to congeal or freeze at a stated temperature—also, not to evaporate to any extent The advantages and savings derived from the use of our fluid can be testified by many Gas Light Companies which we have supplied. We only refer to the certificates of H. J. Miller, Esq., President of Cincinnati G. L. and Coke Co., and Dr. J. Lawrence Smith, Professor of Chemistry in the Louisville College, and President of the Louisville Gas Co.

HARTMAN & LAIST,

Office No. 71 Main street, Cincinnati —Chemical Works on Providence st, and Miami Canal, near Findlay st.

CERTIFICATE

Office Louisville Gas Co., Louisville, June 28, 1865.

This is to certify, that the Louisville Gas Co. have used for about two years, the Glycerine prepared by Messrs. Hartman & Laist of Cincinnati, in their Wet Meters, and have in all instances found it to give most perfect satisfaction Prior to the use of the above Glycerin, we had employed that manufactured by other parties, and we consider H. & L.'s superior to any we used.

J. LAWRENCE SMITH, President.

Office Cincinnati Gas Light and Coke Co., July 7, 1865.

This will certify, that Messrs. Hartman & Laist of Cincinnati, furnished this Company with Glycerin for Wet Meters some two years since It has proved very satisfactory, having resisted the action of frost during two winters and evaporating not more than six per cent. per annum, as guaranteed by them. The standard being, for density, 15 deg. Beaume's scale. They were the first to introduce it practically to this Company. H. J. MILLER, President.

☞L. BRUCKMAN, 107 Warren street, up-stairs, Agent for New York.

GLYCERIN

For Filling Wet Meters,

AND OTHER PURPOSES.

We soilcit attention to Glycerin for filling Gas Meters in place of high wines, or any other substance.—Our Glycerin is superior to anything ever used for the purpose, being entirely free from corrosive property, and made from the same material as the finest article for medicinal use. It will not evaporate, consequently there will be no further expence necessary in filling Meters. Glycerin of 15° Baume will stand a temperature of 14° below zero without congealing, and the more concentrated the greater degree of cold it will stand.

We have been engaged in Manufacturing Glycerin the past 8 years, and from our advantage in material and the large amount we make, are enabled to offer it lower than any manufacturer in this country. Finding the wide range that Glycerin would assume in Pharmacy, the Arts and for mechanical purposes, we have entered into the manufacture of articles adapted to the various uses and are now prepared to offer it adapted to every purpose for which it can be used at less than any article now in competition with it. We annex the following letter from S. S. Stratton, Esq., to show practically its advantages.

OFFICE OF THE COVINGTON GAS-LIGHT CO.
COVINGTON, KY., Feb. 18, 1864.

MESSRS. W. J. M. GORDON & CO.:

Dear Sirs,—It affords us great pleasure in testifying to the superiority of the Glycerin Fluid purchased from you for filling the Wet Meters now in use by the Covington Gas-Light Company.

The difficulty of finding a non-evaporating and anti-freezing mixture for Wet Meters, has, in my opinion, been overcome by the use of your Glycerin Fluid.

I have had it in constant use for the past four months, and during that period the thermometer has ranged as low as 14o below zero, and after careful examination, I have found the fluid in the same condition as when first put in the Meters, and without the slightest discoloration.

Its non-evaporating quality does away with the hitherto unavoidable expense of filling the Meters monthly, and renders Wet Meters no longer objectionable.

In fact, I can cheerfully recommend it as being cheaper and better than any other Fluid or Mixture now in use.

Very respectfully,

S. S. STRATTON, *Sup't Cov. Gas Co.*

The following Gas Companies are using our Glycerin, to whom we refer—

☞Auburn, N Y—Covington, Ky—Portsmouth, O—Springfield, O—Newburgh, N Y—Ann Arbor, mich—Cincinnati, O—Portsmouth, N H—Xenia, O—Richmond, Ind—Annapolis, md—Dayton, O—Painsville, O—Zanesville, O—Rahway, N J—Baltimord, md—Davenport, Iowa—Manchester, N H—Urbana, O—Boston and Sandwich Glass Company—Buffalo, N Y—Philadelphia, Pa—Ripley, O—Piqua, O.—Terre Haute, Ind—Memphis, Tenn—Keokuk, Iowa—Pomeroy, O.

☞For machinery, concentrated Glycerin possesses superior advantages, not becoming solid at the freezing point of mercury and not affected as oils are by exposure to the atmosphere.

W. J. M. GORDON & BRO.,
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CHEMISTS & DRUGGISTS,
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☞*Established in* 1845,☜
(Branch Works at Kreischerville, Staten Island,)
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Office 56 Goerck street, corner Delancy street, New York.
GAS RETORTS, TILES and FIRE-BRICK of all shapes and sizes.
FIRE MORTAR, CLAY, and SAND.
Articles of every description made to order at the shortest notice.
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Purifiers, Exhausters, Compensators, Self-Acting Valves, Branches, Bends, &c.
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Malleable Iron Retort Lid.
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SILAS C. HERRING. JAMES R. FLOYD.

J. H. GAUTIER & CO.,
MANUFACTURERS OF
Gas Retorts, Tile, Fire Brick,
Black Lead Crucibles, and Carburet of Iron Stove Polish,
JERSEY CITY, N. J.
Refer to—Manhattan Gas Light Co., New York. [135

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OF ALL SHAPES & SIZES,
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☞Articles of every description made to order, at short notice. (135
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Philadelphia Fire Brick Works,
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Manufacturer of all kinds of FIRE-BRICK, GAS-HOUSE TILES, to suit all the different plans in use. Clay Retorts and Dentists' Muffles. Orders filled at short notice.

Cooking & Heating
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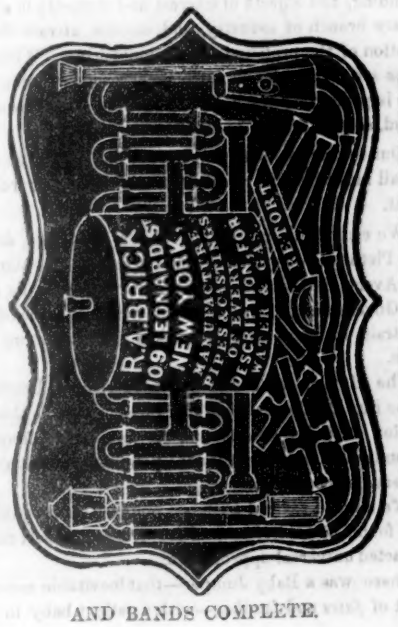
CHEAPER THAN COAL OR WOOD.

The "EAGLE" Gas Heating
STOVES,
Positively guaranteed free from Smoke or Smell.
Will Heat Offices, Parlors, Dining, Sleeping, and Bat Rooms. Also,
The EAGLE Gas Cooking
STOVES & RANGES,
Will BOIL, BROIL, ROAST, BAKE, TOAST,
STEW, and HEAT IRONS
The EAGLE GAS STOVES and RANGES have been in use for over Three years, and are found to be the most SIMPLE, COMPLETE and PERFECT Arrangment for HEATING and COOKING, in every respect, ever invented, and to do the Work with LESS TROUBLE, in LESS TIME and at LESS EXPENSE than any Coal or Wood stove.
Their WONDERFUL NEATNESS, CONVENIENCE and ECONOMY can be seen at a glance.
WE ALSO MANUFACTURE
COAL OIL STOVES,
For Cooking and Heating.
The American Advertising agency 389 Broadway, N Y. Bus. Dept., E. Alvord, cor. Dept., Fowler & Wells, receive orders for our stoves.
EAGLE GAS STOVE MANUFACTURING CO.
No. 474 BROADWAY, N. Y
☞The Company have descriptive Catalogues, which will be sent or delivered, upon application for them.

DRIVING PIPE,



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LIGHT, HEAT, MINING INTERESTS.

PETROLEUM, WATER-SUPPLY, AND

SCIENTIFIC SUBJECTS GENERALLY.

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AGENTS.

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The Mining and Petroleum Standard

AND

AMERICAN GAS-LIGHT JOURNAL,

PUBLISHED ON 2D AND 16TH OF EVERY MONTH.

JAMES W. BRYANT, DR. C. W. TORREY, } EDITORS.

MONDAY, OCT. 2, 1865.

☞ We shall have twenty or thirty vols. of our last year's issue bound, which we will furnish to subscribers at $3 each, or non-subscribers at $4.

☞ Our subscribers would confer a favor upon us by remitting *checks, or Post Office Money orders*, as we are frequent losers by money sent by mail.

AMERICAN INSTITUTE FAIR.

The thirty-sixth annual fair of the American Institute is now in the full tide of prosperity and popular favor. Crowds daily and nightly fill the spacious building, and objects of interest and curiosity in almost every branch of industry and science, attract the attention of the profound and the inquisitive. While the eyes are regaled by so much that is entertaining, the ear is pleased by the agreeable strains of Dodsworth's band, so well known to our fellow citizens.

Our survey has been superficial, but will be more in detail hereafter, and we shall then notice what we now omit.

We cannot attempt details of the Paintings, &c., in the Picture Gallery, but we will refer to the painting by Avery of the turning over the Resolute to the British Government, as graphic, and we know some of the portraits to be correct—it makes an interesting picture.

The Horticultural display is extremely beautiful, some rare specimens being on exhibition, while the collection of fruits tempts one to forget the frequent "hands off," and to gratify the palate somewhat at the expense of conscience.

We noticed several pleasing pictures in the gallery, and found that "Diogenes discovering an honest man," attracted universal approbation.

There was a Baby Jumper—that inevitable concomitant of *fairs* and families—with a patient baby in red stockings driving a wooden horse, if not on a gallop at least on a spring.

There was a patent American Pen machine for the American people, with the American motto, "let Americans write with American pens." Each person received a paper and a pen. We, Editorially, took two papers and two pens.

We found a benevolent exhibitor, with the "Great Benefactor, or the sick room companion"—a patent invention known to all who promenade Broadway—a sort of inverted crabbing net, to protect the face from mosquitoes.

We penetrated into the sacred precincts of the kitchen, where we found an enthusiastic female of the dominant race, who informed us that she had been a cook for fourteen years,—it seemed to us that she must have commenced her profession at six years from her birth, but then we never could accurately determine the age of the colored species—who informed us that she had never found a range, or stove, to please her as much as the Petroleum Stove, which does all the cooking for the establishment, seven hundred orders having been filled since two o'clock in the day.

Leslie & Elliot exhibited some Kerosene Stoves and Ranges, and some Gas Stoves, as also his really good Refrigerator.

Needham's Pneumatic Way, interested—we may venture to say—all New Yorkers.

A family Knitting Machine was there which would certainly have pleased our grandmothers, however the present generation may regard it.

Ziegler's "What-Not table," is one of the useful curiosities of the exhibition. We looked and saw a dresser with four or five shelves, two plates, knives, forks and spoons on each shelf—when, presto, it became a table, set in the most approved style for a company of eight or ten. We only discovered one draw-back, the absence of a table-cloth.

The American Pump Manufacturing Company exhibit a pump for which they claim simplicity, durability, capacity and cheapness, and use it for houses, farms, ships, etc. We were much pleased with it, and it promises to be a great success.

West's Force Pumps were on hand, sustaining their well established reputation. But in the Pump way the great attraction was the Centrifugal Pump of Andrews, & Bro., and the Steam Pumps of Woodward. Ericson's Caloric Engine and Pump appeared to be well appreciated.

The Lenoir Engine worked regularly with its electric spark and gas combination, and we hope a success for it.

The various Engines and Machinery are praiseworthy in the highest degree, and we should be glad to expatiate in detail about their merits, as well, also, in reference to some admirable specimens of Tools for various purposes, but we have not space.

W. H. Hoag, of 40 Cortlandt street, presented quite a variety of Machines and Tools. The Oscillating Engines and boilers, and the Centrifugal Pump which makes the "Waterfall," of Wm. D. Andrews & Bro., is the great attraction to all who appreciate such work.

Three Locomotive head-lights, made by Radley, McAllister & Co., are splendid in workmanship, and having seen their power of light, we can say they are truly a magnificent and highly valuable article in their line.

The patent Glass Fountains of Schultz & Warker, for Soda and Mineral Waters, are very beautiful, and possess important advantages over those made of metal.

The numerous Sewing Machines were admirably displayed, and each had its votaries. The Button-hole Machines of the Union Co., and Wheeler & Wilson, excited much wonder by their superior work over anything possible by the hand.

Burden & Sons has samples of their long tried horse-shoes, and Cornings & Winslow had a model machine which turned out some apparently of the "same sort."

The samples of Ornamental Iron Castings of a Deer, Lion, Vases, Fountain, Settee, &c., from Chase & Co., were much approved.

A most important and practical invention is Chamber's Patent Machine for making bricks by steam, at the rate of sixty to seventy per minute! This machine of Mr. Chambers is apparently perfect for its object, and works with regularity and ease, and it would repay a visit to the Fair to see it in operation. "In this machine, the clay is tempered by the action of cutters, &c. somewhat after the usual manner, and is then forced, by the action of a spiral blade, or screw, out of a square nozzle in a continuous bar, of such a size as to need only cutting into even lengths to convert into a stream of bricks. The nozzle is so shaped as to make this bar perfectly smooth and full in the corners, without any of that tendency to break on the edges which was at first supposed to be an inseperable difficulty in this plan, and which is here overcome by an arrangement at once simple and infallible. The bar of clay, soon after it has left the nozzle, is cut into bricks by the action of a knife attached to the periphery of a wheel, which is controlled in its motion by the movement of the clay bar itself, so that the bricks are all cut of uniform size even if the outflow of the clay varies, as it always must, from differences in its consistency."

We were attracted by 64 specimens of Fire brick, and materials for Gas Works and Furnaces, from the extensive manufactories of W. B. Kreischer, at Goerck and Delancey streets and Staten Island. This being in our line, we examined and endorsed them "all right."

Bennett's anti-friction horse-power, and Excelsior Portable Burr Stone Mill were presented as usual, and stand pre-eminent over others for the same purposes.

Messrs. Kitchen & Co. exhibit the Empire State Gas Machine, and the Union Gas Light Co. of Boston, have one of their Portable Gas Machines there also.

Madame Demorest made an elegant display of her patterns of fashions, embroidery, and conveniences for ladies dresses, &c., but it is an unknown language to us.

"Osborn's Java Coffee" yet occupies a place before the public, and its good character has stood the tests it has been subjected to without detraction.

The Agricultural implements were much like former representations, quite extensive and satisfactory. The combined Corn Plow and Cultivator, of the American Agricultural Works, 17 Cortlandt street, is certainly a great labor saver—but we were extremely gratified with the mechanical arrangement of the combined Mower and Reaper from the same establishment—this machine is esteemed very highly by those who have seen it in operation.

The Musical department we have not yet given attention to.

Resplendent, and the most attractive object to the eye, is the gorgeous dinner sett, presented to T. W. Kennard, Esq., the distinguished Engineer of the Grand Trunk Railroad in Canada, manufactured by Messrs. Ball, Black & Co.

The American Institute which has now been in existence for so many years, has undoubtedly done more for science and practical American inventions than any institution of a similar kind in the United States,—Notwithstanding the outcries raised by disappointed competitors and interested newspapers, there can be little doubt that a high degree of purity exists in the decisions of the Committee of Awards and Premiums. That judges may sometimes have allowed personal feelings to influence their judgments, is only in accordance with our common human nature, but it has always been the endeavor of those to whom their reports have been made, to secure honest and honorable men, and to detect anything which might savor of bribery or corruption. The gold medals which the Institute has given, have been the foundation of many a worthy man's fortune, and as an American institution, devoted to American interests, every good citizen should encourage it by his presence and assistance. We are pleased to see that the Fair thus far has been so successful.

The arrangement of the articles for exhibition, and the convenience for their examination is very creditable to the managers indeed—the regulations altogether appear to be as good as they could be to carry out the objects in view.

Keep clear of the law—for, even if you gain your case you are generally a loser.

NEW YORK MINING EXCHANGE.

New York, Sept. 30, 1865.

	Bid.	Asked		Bid.	Asked
Copper Stocks.			***Gold Stocks.***		
Aztec	7		Benton	1	1¼
Bedford	1	1	Consol'd Gregory		28⅝
Boston	4¾	5	Corydon	—	8
Caledonia, A. P.	10	12	Gunnel	3¾	4¼
Canada	3¼	4	Great Western	—	8
Carp Lake	3	5	Hope	—	9
Central	—	—	Isaac's Harbor	⅝	⅞
Columbian	—	24	Manhattan	—	9
Copper Falls			Mariposa	44	44¾
Clifton	—	81	Montana	½	1
Dacotah	—	5⅝	New York	2½	3
Derby	⅞	1⅛	N. Y. & Nova Scotia	⅝	1¼
Douglass	—	—	Quartz Hill	9¼	10
Evergreen	18¾	20	Quicksilver M'g Co	81	82
Flint Steel River	12	13¾	Rocky Mountain	—	10½
Frue	2¾	5	Smith & Parmelee	7	12
Grand Portage	—	—			
Hancock	12½	14	***Coal Stocks.***		
Hamilton	—	6	American	98	100
Hilton	5	6	Ashburton	—	25
Hudson	1	2	Central	62	65
Huron	32	33	Cumberland	61	62
Indiana	8¾	9¼	Del. & Hud. Canal	206	208
Isle Royale			*Hampshire & Balt.	104	110
Keweenaw	—	6	Pennsylvania	213	215
Knowlton	7	10			
Lafayette	1	2	***Lead Stocks.***		
Manhattan	—	—	Bucks County	⅝	⅞
Mendota	—	—	Clute	1½	1¾
Merrimac	4¾	5¾	Erie	—	20
Minnesota	33	37	Macomb	8¼	5
New York, A. P.	2	3¼	Plancentia Bay	1¾	1¾
N. J. Consolidated	4	4¾	Sussex	¾	⅞
Norwich	—	6	Wallkill	3½	6
Ogima	5	6¼			
Ontonagon	3	4¼	***Iron Stocks.***		
Penn	—	11½	Copake	8	10
Providence	1¼		French Creek	⅞	1
Quincy	96½		Teal Lake	4½	6
Reliance	1¼				
Rockland	12½		***Miscellaneous.***		
Superior	8¾		Rutland Marble	17	20
Sharon Consolidated	—		* *Ex. div.*		

FOR SALE.

A set of Purifying Boxes, 5 x 10 feet, with covers and Hoisting Apparatus, Center Seal, Connecting Pipes, &c., with 8 inch openings, nearly new, and in perfect order. Offered at a low price on account of being too small for the works. Apply to, or address Hartford City Gas Light Co., Hartford, Con. 39-40

FOR SALE.

One set of four Purifiers, with Centre Seal, Drums, and 12 inch connections all complete, of the following dimensions:

Purifiers—19 feet 4 inches long, 8 feet 4 inches wide and 3 feet 1 1-2 inches deep, in the clear, with seven layers of sieves.

Centre Seal—5 feet 11 1-2 inches in diameter by 2 feet 10 inches deep.

Also—one Cast Iron Meter Case, 10 feet square, with 12 inch connections.

Address P. O. box 1400, New York City. [37-39

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WANTED—a situation as Superintendent in a Gas Works making from one thousand to twenty thousand feet per day Will practically attend to putting in Retorts, build the Brick Work for the same, put in Service Pipes and Street Mains, take the state of the Meters, and do the Gas Fitting for a small town.
Address Gas Fitter, at this office. [37-39

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CAMERON COAL.

The Cameron Coal Company are now prepared to receive orders for the dellvery of their

☞ *Very Superior Bituminous Coals,*

At Elizabethport aad other points. It is remarkably free from Sulphur, snd suitable for the purposes of Gas Companies, Locomotives, Steam Engines, Iron Manufacturers, aud other parties requiring a very superior fuel.

For terms, apply at the office of the Company, Empire Buildings, No. 71 Broadway, Room 33, New York City.

Experimental Trial of Cameron Coal Company's Coal, from "Mount Hope" Vein,

Made at the Philadelphia Gas Works, March 20th, 1865, Charges, 100 lbs. each.

Pounds of Coal carbonized, ... 3,600
Cubic feet of Gas made, ... 16,285
" " per lb. Coal carbonized, 4 52·100
Coke made, in pounds, ... 2,480
" in bushels, ... 63
Tar made, in gallons, ... 22
Illuminating power, 5 feet Batwing—14 44·100 Candles.

No. 34 Pine Street, New York, April 5, 1865.

George Warren, Esq., President Cameron Coal Co.:

Dear Sir—The analysis of the Coal I received from you, as from your "Mount Hope" vein, results as follows:

Volatile matter, ... 26.00 per cent.
Carbon (of Coke), ... 69.40 "
Ash, ... 4.60 " —100.00

The volatile matter consists of crude oil, ammoniacal water, and gas. The crude liquor product amounted to 14 gallons per ton; the illuminating Gas, 4,522 cubic feet per 1,000 lbs. coal. The Coal weighs 65 lbs. per bushel. The Coal is remarkably free from sulphur, and the Gas of excellent quality.

Yours, very truly,

(Signed,) A. K. & S. C. EATON, Chemists.

Manhattan Gas Light Co., New York, April 24, 1865.

Mr. George Warren, President Cameron Coal Co.:

Dear Sir—The result of the examination of the Coal from the "Mount Hope" vein is as follows:

One ton (2,240 lbs.) yielded 9,500 cubic feet of 13 75·100 candle Gas, and 40 bushels of coke, weighing 1,550 lbs. The Coke has a good appearance, and burns very well, with but little hard clinker. Had the Coal been fresh mined, the result would have been better.

Analysis of the Coal.

Volatile matter, ... 29.00 pr. ct.
Fixed carbon, ... 67.20 "
Ash, ... 3.80 " —100,00

Analysis of the Gas.

Olifiant Gas, hydro carbon vapors, 4.75 pr. ct.
Carbonic oxide, ... 5.75 "

Yours, very respectfully,

(Signed) JOS. A. SABBATON, Engineer.

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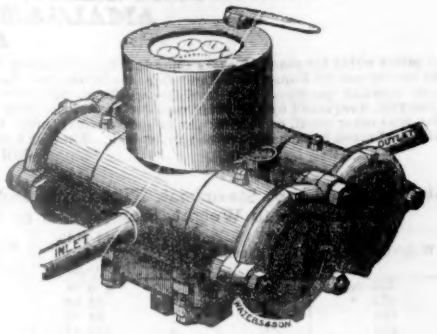

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with such ease and certainty of motion, as to offer no appreciable obstructions to the flow of water in the pipes to which it is connected, as it runs and registers upon three inches head, or when delivering the smallest stream. These qualities, with its low cost, have caused its extensive adoption by corporations and individuals, in many of our largest cities.

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A Gas Engineer of thirteen years experience, desires a re-engagement. He refers, by permission, to Chas. Roome, Esq., President Manhattan Gas Co.; F. T. Willis, Esq., President Savannah Gas Co.: Ambrose L. White, Esq., Engineer Metropolitan Gas Co.
Address, James R. Smedberg,
131 186 Seventh Avenue, New York City

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List of Academy, Steamboat, Fire-alarm, and Church Bells, with particulars as to Weight, Sizes, Price of Bells, Hangings, etc.

Weight of Bells.	Diameter.	Price of Bells without Hangings.	Price of Patent Hangings.	Price of Bell and Hangings complete.
225 lbs.	26 inches.	$56 00	$15 00	$71 00
275 "	42	69 00	18 00	87 00
375	36	94 00	22 00	116 00
450	84	112 00	25 00	137 00
600	02	150 00	30 00	180 00
750	39	188 00	35 00	225 00
1,000	64	250 00	42 00	292 00
1,200	48	300 00	45 00	345 00
1,400	50	350 00	50 00	400 00
1,600	52	400 00	54 00	454 00
1,800	55	450 00	60 00	510 00
2,000	58	500 00	62 00	562 00
2,500	60	625 00	72 00	697 00
3,000	63	750 00	85 00	835 00
3,500	66	875 00	87 00	962 00
4,000	69	1,000 00	100 00	1,100 00
4,500	72	1,125 00	113 00	1,238 00
5,000	75	1,250 00	125 00	1,375 00

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These Bells are fitted with Yoke, Standard's Crank and Bolt, complete for use.

Weight of Bell and Hangings.	Diameter.	Cost of Bell and Hangings complete.
15 lbs.	7 inches.	$3 75
20	8¼	5 00
35	10	8 75
50	12	12 50
75	16	18 75
100	18	25 00
150	20	37 50
200	22	50 00
250	24	62 50

Larger Sizes made to Order at 25 cents per pound.

Guarantee.—All Bells sold at the above prices WARRANTED against breakage by fair ringing, for TWELVE MONTHS from time of purchasing. Should one fail, a new bell will be given by returning the broken one.

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In case a Bell breaks after the expiration of the Warrantee, I allow HALF PRICE for the old metal. JOHN B. ROBINSON, 86 Dey Street, N. Y.

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AN INDESTRUCTIBLE COATING FOR

IRON, TIN, and WOOD.

It consists of seventy-two parts Oxide of Iron, and twenty-eight parts Cement Lime Stone in the one hundred pounds.

It has much more body than red or white lead. It is warranted perfectly water and fire-proof and to withstand a greater heat on metals without scaling, than any other paint in use.

It is a perfect cover for all kinds of iron, tin, or wood-work, out-houses, and canvas coverings. revents and arrests the corrosion of metals, and is not affected by the action of salt, gases, acids ammonia.

It hardens under water, as has been fully demonstrated by its application to gas-holders, by many f the largest gas companies in the United States; which companies having thoroughly tested its operties as herein claimed, pronounce in its favor over any other paints in the market, even though l d at double its price.

As a coating for patterns of iron or wood, when mixed with shellac, it is much superior to beeswax, oil, or shellac alone, as has been proven at the large founderies in the country.

For patching boilers and making joints, it is considered superior to red lead, or any other preparation.

For cleaning metals it takes the place of crocus, rouge, and emery, being better and cheaper.

This Paint requires no more oil than dry lead or zinc, and much less than the ordinary mineral paints. It is free from any waste, and possesses a spreading and covering power unequaled.

Terms, by the Barrel or Half Barrel, Five Cents per Pound.

A liberal discount made to parties purchasing by the ton.

A Barrel or Ton will be forwarded to any gas companies desirous of testing its qualities, for which there will be no charge if it does not give entire satisfaction as being the cheapest and most durable of all other Paints in the market.

Also, Prince's Imperial Black Paint, and Prince's Protoxide of Iron.

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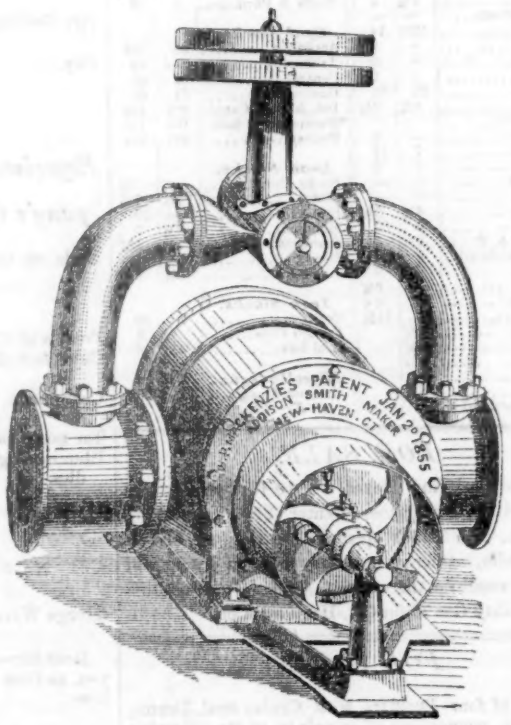

They are made to pass from 4,000 to 150,000 cubic feet of gas per hour; will increase the tion and illuminating power of the gas, and add very much to the durability of the retorts, e clay or iron. The Compensator obviates entirely the necessity of water-joints, is compact, dur cleanly, not liable to get out of order, self-acting, quiet, and certain in its operation.

We are also sole proprietors and manufacturers of the

MACKENZIE PATENT BLOWER, PATENT CUPOLA AND SMELTING FURNACE.

The Blower is a Force Blast machine, durably built, and can be driven with one-third the p required to drive the ordinary Fan. The Cupolas are manufactured in sizes to melt from 1 ton to 20 ons per hour, will save one quarter of the time required by the old style Cupola, and 33 per cen uel. Address

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Great Improvement
IN
Sewing Machines.
EMPIRE
SHUTTLE MACHINE!

Patented February 14th, 1860.

Salesroom, 536 Broadway.

This Machine is constructed on entirely new principles of mechanism, possessing many rare and valuable improvements, having been examined by the most profound experts, and pronounced to be SIMPLICITY and PERFECTION COMBINED.

It has a straight needle, perpendicular action, makes the LOCK or SHUTTLE STITCH, which will NEITHER RIP nor RAVEL, and is alike on both sides; performs perfect sewing on every description of material, from Leather o the finest Nansook Muslin, with cotton, linen, or silk thread, from the coarsest to the finest numbert.

Having neither CAM nor COG WHEEL, and the least possible friction, it runs as smooth as glass, and is

Emphatically a Noiseless Machine!

PRICE OF MACHINES,
COMPLETE:

No. 1, Family Machine, with Hemmer, Feller, Gauge, Braider, & Corder, complete. - - - $60
No. 2 Small Manufacturing, with Extension Table, $75
No. 3. Large Manufacturing, with Extension Table, $85
No 3. Large Manufacturing, for Leather, with Rolling Foot and Oil Cup, 100

One-half hour's instructions is sufficient to enable any person to work this Machine to their entire satisfaction.

Agents Wanted in all Towns in the United States, where Agents are not already established. Also, for Cuba, Mexico, Central and South America, to whom a liberal discount will be given Terms, invariably CASH on delivery.

T. J. McARTHUR & CO.,
536 Broadway.

WILCOX & GIBBS
SEWING MACHINE

Entirely noiseless.

A patented device prevents it being turned backward.

The needle cannot be set wrong.

It received the Gold Medal of the American stitute in 1868.

InSend for a circular containing full information, notices from the press, testimonials from those using the machine, &c.

JAMES WILLCOX,
Manufacturer, 508 Broadway, New York

Principal Offices:
NEW YORK—508 Broadway.
BOSTON—282 Washington street.
PHILADELPHIA—715 Chestnut street.
CHICAGO—133 Lake street.
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GAS-BURNERS.

T. G. ARNOLD,
MANUFACTURER OF
GAS-BURNERS
And Importer of SCOTCH TIPS,
224 and 226 West 21st street,
formerly No. 447 BROOME ST., New York.
Mercury Cups, Portable Sockets, Burner Pillars, Burner Pliers, &c., &c.

C. GEFRORER,
Manufacturer of
GAS-BURNERS,
For Lighting and Heating Purposes.
GAS HEATING AND COOKING APPARATUS; FITTERS' PROVING APPARATUS, &c.
No. 111 South Eighth St.
Philadelphia.

WOODEN PURIFYING TRAYS
PATENT
Conically Slotted Solid Wood Sieves
FOR GAS PURIFIERS.

The Conically Slotted Solid Wood Tray or sieve was patented 21st October, 1862, and all persons are cautioned against purchasing them of any other person except the subscriber. The following companies are now using these trays.

Manhattan, New York,
Metropolitan,
New York
Albany,
Troy
Brooklyn, L. I.
Williamsburgh,
Citizens
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Orders eceived by mail or otherwise.
JOHN L CHEESMAN.
147 Avenue C New York City

WEST'S IMPROVED PUMPS, the most Simple, Durable, and Powerful, and the Cheapest in use.
J. D. WEST & CO.,
No. 40 Cortland street.

JOSEPH LENNIG,
1615, 1617, and 1619 Francis St.,
Above Ridge Avenue, Philadelphia, Pa.,
MANUFACTURER OF
WET & DRY GAS METERS,
STATION, SHOW, & EXPERIMENTAL METERS,
Photometers, Pressure Registers, Indicators, and Gauges, Governors Meter Provers, Centre Seals, Fluid Gauges, &c.
GAS APPARATUS
Of the most reliable and approved construction manufactured and on hand at the
UNION GAS METER WORKS.

D. PARRISH, Jr.,
GAS ENGINEER
And Contractor for Coal or Oil Gas-Works.
Estimates given for Gas-Works, Gas-Holders, or any Gas Apparatus.
205 1-2 Walnut st., Philadelphia, Pa.
Box 1956, Post Office.

To Manufacturers of Petroleum Gas.

For sale, Parrish's Patent Gas and Air Mixer, adapted to all works using Petroleum or other oils, by which rich Petroleum Gas is mixed, after it leaves the holder, with a proper proportion of air, giving it the greatest illuminating power, without smoke, through any burners. The apparatus being attached to the outlet pipe, requires no alteration of the works.

Apply at the Gas-Works of St. Nicholas Hotel, No. 63 Mercer st., N. Y., where one can be seen in operation; or address D. Parrish, Jr., St. Nicholas Hotel, New York city, or No. 1416 Arch street, Philadelphia.

TO GAS COMPANIES.

THE UNDERSIGNED DESIRES TO undertake the supervision of several small Gas-works, to visit and examine them as often as may be necessary; to obtain and inspect their coal, castings, fire-brick, and other materials; and to manage their general business in such a manner that they shall be under such supervision as is now attainable in large works, at much increased cost. Also, to advise as general Consulting Engineer and expert in practical chemistry.

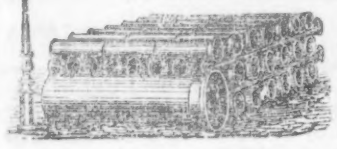
CHAS. M. CRESSON,
Late Asst. Engineer of the Philadelphia Gas-works
417 Walnut st., Philadelphia.

THE AUBIN
GAS-WORKS COMPANY,
Of Albany, N. Y.,

Now contract their works to make 10,000 feet of good Gas from 2,000 pounds of *hard* wood and 40 gallons of kerosene tar, *before payment can be demanded;* and the charcoal is worth the cost of the wood.

Many Village Gas Companies can be referred to.

R. D. WOOD & CO.,
MANUFACTURERS OF
CAST-IRON PIPE, RETORTS, &c.
Office, 400 Chestnut street,
PHILADELPHIA.



Carrington & Co.'s
GENERAL
PURCHASING
AGENCY,
In Connection with all the Expresses,
No. 30 Broadway,
NEW YORK.

Established 1854.

Purchases to order ANY article wanted from New York, (or from Europe,) for ladies' or gentlemen's use or wear,—comfort or luxury—from a cameo to a cashmere—a sewing to a steam-engine.

Goods purchased at current City prices, and forwarded by Express, or as directed.

Commission, Five Per Cent.

Remittances, with orders, can be made by Express if preferred, as all Express Agents will take orders, receipt for and forward funds, and see to return of Goods.

SPECIAL CIRCULAR.

The Adams Express Company, appreciating the need of a capable medium connecting with the various Express Lines, through which personal and other orders for goods from this city, can be satisfactorily supplied, do recognize CARRINGTON & CO.'S GENERAL PURCHASING AGENCY as such a medium for filling orders for every description of goods wanted from New York, and commend it to the attention of the public, and of our general and local agents, recommending our agents to extend to it all reasonable aid, by facilitating the distribution of its cards and circulars, and making known the advantages it affords.

ADAMS EXPRESS CO.
By W. B. DINSMORE, Prest.
NEW YORK, June, 1864.

We cheerfully concur in the above recommendation of the Adams Express Company.
AMERICAN EXPRESS COMPANY,
By HENRY WELLS, Prest.
UNITED STATES EXPRESS COMPANY,
By D. N. BARNEY, Prest.
WELLS, FARGO & CO.,
NATIONAL EXPRESS COMPANY,
By J. A. ULLEN
HARNDEN EXPRESS,
By L. W. WINCHESTER, Supt.
KINSLEY & CO.'S EXPRESS,
By E. LITTLEFIELD, Supt.
HOPE EXPRESS COMPANY,
A. D. HOPE, Supt.
BREESE & CO.'S EXPRESS,
By STEPHEN BREESE, Supt
NEW JERSEY EXPRESS COMPANY,
By GEORGE R. DUNN, Sup

The Greatest Improvement yet in the Sewing Machine Art!

A CURIOSITY WORTH SEEING!

Please send for circular with sample of sewing.

These Improved Machines save ONE HUNDRED PER CENT. of thread and silk, and make the LOCK-STITCH alike on both sides.

They require no instruction to operate perfectly, except "the printed directions."

No change in sewing from one kind of goods to another.

And no taking apart to clean or oil.

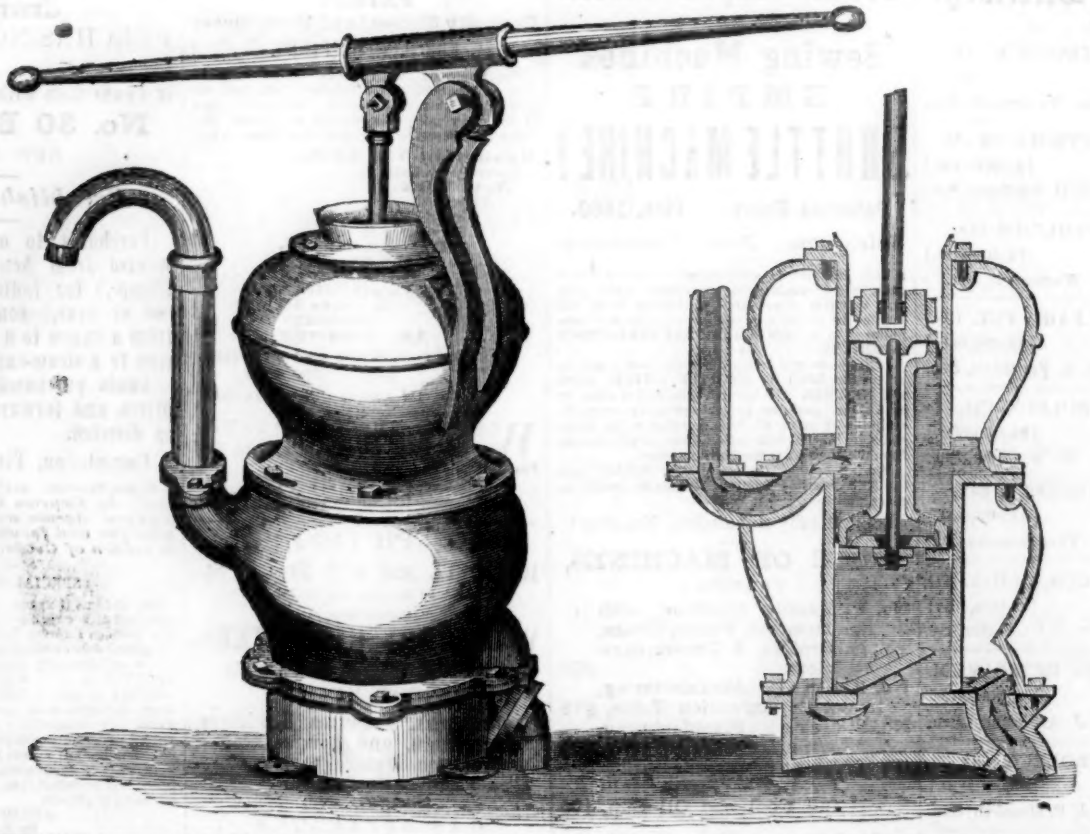
Our NEW MANUFACTORY is now complete, with all its machinery and tools entirely new, and is already rapidly turning out Machines which for BEAUTY and PERFECTION of FINISH are not surpassed by any manufacture in the world.

N. B.—Should any Machine prove unsatisfactory, it can be returned and money refunded.

Agents wanted in counties not vassed by ur own agents.

Finkle & Lyon S. M. Co.
No. 538 BROADWAY, NEW YORK

WEST'S IMPROVED PUMP.



LILLIE'S
CELEBRATED
Chilled and Wrought Iron Safes,
WROUGHT IRON FIRE-PROOFS,
LOCKS AND VAULT DOORS.

These Fire-Proofs are manufactured to supply a demand for Security Against Fire, less expensive than my celebrated and superior Chilled and Wrought Iron Burglar and Fire-Proof Safes.

They furnish similar and equal security to the Safes generally manufactured in the different cities, but are SUPERIOR to them in their Fire-Proof qualities and durability, the iron being effectually protected from rust in any climate, and the Fire-proof not subject to lose its utility by age. This is an important advantage gained to the purchaser, as Safes often rust out and become worthless in two or three years.

To substantiate my position, those purchasing these Fire-Proofs are at liberty, by giving me due notice of time and place of trial, to test them by fire with any other Safe of the same size; and should they not prove superior, I will refund the money, or a new Fire-Proof, as the purchaser may decide.

LIST OF SIZES & PRICES OF WROUGHT IRON FIRE-PROOFS

	Outside.			Inside.			
No.	Height.	Width.	Depth.	Height.	Width.	Depth.	Price.
6	40	31	27	31	21	15	$150
5	34	21	26	24	21	14	125
4	31	27	25	22	18	13	110
3	30	24	24	21	15	12	100
2	28	22	23	20	14	12	75
1	24	19	20	17	11	10	50

Sample of Fire-Proof Safe at Office of the Am. Ad. Agency, 389 Broadway, N. Y.

PRICE LIST.
LILLIE'S CELEBRATED CHILLED & WROUGHT IRON SAFES.

BANK, FIRE, AND BURGLAR SAFES.
Folding Doors, D Lock.

	OUTSIDE.			INSIDE.			
No.	Height.	Width.	Depth.	Height.	Width.	Depth.	Price.
	In.	In.	In.	In.	In.	In.	
1	66	50	29	54½	39	18	$950
1½	59	50	26	48	39	15	800
2	53	44	27	42½	33	15	600

MERCANTILE F AND B SAFES.
Folding Doors and Monitor Locks.

3	50	42	27	40	32	16	$500
4	46	42	27	36	32	16	450
4½	38	46	27	28	36	16	450
5	42	38	27	31½	27½	15	350

Single Doors and M. Lock.

6	38	35	26	27½	28½	15	$250
7	34	31	26	24	21	14	200
8	31	28	24	21	18	13	175
9	30	24	24	21	15	12	140
10	26	22	22	19½	13½	12	120
11	24	20	18	17	17	10	100

HOUSE SAFES.

SIDE BOARD	$600
DINING ROOM	350
PANTRY (No. 1)	275
PANTRY (No. 2)	150
DODECAGON BANK LOCK	100
MONITOR SAFE do.	50
SAFE do.	10

NATIONAL BANK SAFES,
With 2 Inside Burglars and 1 D and 2 M Locks.

	OUTSIDE.			INSIDE.			
No.	Height.			Hei	Width.	Depth.	Price.
	In.			In.	In.	In.	
1	68			55	39	18	$1,200
2	61			48	39	18	1,050
3	57			42½	33	18	900

BANK VAULT BURGLAR SAFES,
With Folding Doors and D Lock.

0	68	53	27	64	48	20	$1,000
0½	61	53	27	55	46	20	800
1	57	47	27	49	40	20	600

BANK VAULT BURGLAR SAFES,
Single Doors and D Lock.

3	53	32	26	49	28	
	42	36	22	38	32	19
4	36	31	20	32	27	
5	30	24	18	26	20	14

BANK VAULT DOORS AND FRAMES,
D and S Lock.

No.	Height clear.	Width clear.	Depth adjustable.	Price.	Weight.
	In.	In.	In.		
1	72	27	20	$400	3,000
2	72	27	20	275	1,500

Orders received and filled at net cash prices, by the AMERICAN ADVERTISING AGENCY, 389 Broadway, New York. All Safes shipped from Troy free of cartage.
Business Depart., E. ALVORD. *Corresponding Depart.*, FOWLER AND WE

WEST'S IMPROVED PUMP.
Anti-Freezing, Double-Acting, Forcing, and Lifting

These Pumps have now been in general use a number of years, and give better satisfaction than any other, and are recommended as

THE BEST!

by CAPTAIN ERICSSON and other eminent engineers. We can refer to thousands using them, a guarantee that all will recommend them. They are more simple in construction, and work easie and cost less than all others.

"Our readers will find the double acting, improved pump of J. D. West & Co., one of the best in the market. It is very simple, works to a charm, so that any child may use it; throws a steady, continuous stream, and does not freeze in the coldest exposures, and is unusually cheap. We say this knowingly, and give the testimony of our own accord, without the knowledge or request of the proprietor."—*New York Evening Post, July 1st*, 1863.

"J. D, WEST & Co.: We are pleased to state that the Pumps we had of you about a year ago, have been in constant use, twelve hours each day, and raise for the use of our woolen factory, about 130 gallons per minute. They work with but little power, compared with pumps we have used before, and do not get out of repair, and are satisfactory in all respects.

"DUNLAP MANUFACTURING CO."

Solon Robinson to the Farmers' Club.

Jan. 23.

"No farmer who owns a well or cistern can possibly afford to be without an iron pump. It should be a suction and force pump—a perfect little fire engine—such a one known as 'West's Improved Pump.' I speak of this Pump because I happen to know it....to be very simple, durable, powerful and cheap, and it don't freeze up, nor get out of order once a year....I know this, and think I may be doing the farmers good by speaking of it....A boy ten years old can work it, and throw a continuous inch-and-a-quarter stream....It can be made to work in deep wells as well as in shallow ones."

"The undersigned having to use "West's Improved Pumps," cheerfully recommend them as simple, durable, and powerful in raising and throwing water, and for their ease of action, security against frost, and low price, we believe them superior to all others.

"WARREN LELAND, Met. Hotel, N. Y.
"J. W. POMEROY, Yonkers, N. Y.
"JOHN MESSEREAU, N. Y.
"DOMINICK LAWRENCE, Westchester."

From the New York Observer.

"We have had in use for months past one of West's Pumps, which has given us more satisfaction as a force and lifting pump than any we have ever used. It is one of great power, and well adapted for ship's decks, mines, factories, greenhouses, graperies, etc. *The Mining Chronicle and Railway Journal* says: 'It is recommended for its extreme simplicity of construction, great strength, and consequent durability and cheapness of repair. There is no stuffing-box—the pressure being held by a cup packing, like that upon the working-piston, working in a cylinder, fitted for the purpose within the upper air chamber—which we think a great improvement, as stuffing is so liable to be deranged and leak under strong pressure, to say nothing of the loss by friction incident thereto. It has also two air-chambers; thus the action of the valve is cushioned upon both sides by air—preventing water-hammer and vacuum-thump. The valves are very accessible and simply and cheaply repaired. They work much easier than any pump we have ever seen; the 4-inch cylinder being worked by children in wells 100 feet deep, and as they are extremely cheap, as well as simple and strong, we freely recommend them.'"

"CAMBRIDGE MINE, N. C., June 15, 1863.

"J. D. WEST & Co.—Gents: The Pump which I ordered for our mine is received, and put to work in our underlay shaft, which we are sinking. We find that one man will, with ease, lift 50 gallons per minute. We lifted in three and a half hours all the water in the shaft, which measures seven by twelve feet and thirty feet deep, and it was full when we commenced. It answers our expectations in every respect, and our workmen are highly pleased with it. It will do great service with but trifling expense for repairs.

"Yours, respectfully, BURR HIGGINS."

"This may certify, that I have been using, at my manufactory, for the last four years, 'West's Improved Pumps.' I now have in use three of said Pumps, one of which is kept constantly at work, 24 hours of each day (save Sundays), and has been running for the past two years. I pronounce them, unhesitatingly, the best Pumps that have been brought to my notice, having used many others previously. They are simple in their construction, and not easily disarranged.

"N. Y., Oct. 10, 1859. JAS. A. WEBB."

We have plenty more such certificates, but think these are enough. For Pumps, Hose, Pipe, etc., address or call upon

J. D. WEST & CO., 40 Cortlandt st., New York.

Orders may be sent through the AMERICAN ADVERTISING AGENCY, 389 Broadway

EDDY'S

Kerosene Cooking & Heating

STOVES AND RANGES.

THESE COOKING STOVES WILL

☞ *Bake, Boil, Stew, Fry and Roast,*

With the greatest economy and facility, and without heating the room in which they are used. They are perfectly simple, operating like an ordinary Kerosene Lamp with a chimney, and are the only Kerosene Stoves that burn without smoke or odor.

"We have been perfectly astonished to see what a labor-saving, dirt-saving and heat-saving institution is EDDY'S PATENT KEROSENE STOVE. Taking the cost of running it, and the result attained, it is the best patent in the market."—*Worcester Daily Spy.*

Our Heating and Cooking Stoves are very convenient and economical, especially where a fire is required but a few hours at a time.

Orders for Stoves may be sent through American Advertising Agency, 389 Broadway, New York.

LESLEY & ELLIOT,

Manufacturers, No. 494 Broadway, New York.

Send for Illustrated Circular. (136

KNITTING MACHINES

FOR

Families and Manufacturers,

☞ *Something New and Invaluable for Family Use.*

We offer the public the simplest, strongest and best Knitting Machine in the world.

It occupies but little space—is portable and can be attached to a stand or table, weighs about 40 lbs.

It will knit a variety of Stitches—the breakage of needles is trifling—the cost of needles is insignificant and the most delicate material can be knit pure and spotless, as the needles are not oiled.

Orders for Machines may be sent through the American Advertising Agency, 389 Broadway, N. Y.

Send for a Circular—Agents wanted.

DALTON KNITTING MACHINE CO.,

137] 537 Broadway, N. Y.

WEED'S

HIGHEST PREMIUM

Shuttle Sewing Machine

Has only to be seen and operated to be Appreciated.

Call and see for yourself before purchasing. Please bring samples of various kinds of thread, (such as is usually found at stores,) and various kinds of fabric, which you know the former most popular Sewing Machines either cannot work at all, or, at best very imperfectly.

SUPERIORITY.

over any other Machine in the market will be seen at a glance.

1st It runs easily and rapidly, and is so constructed as to endure all kinds of hard usage.

2d. No breaking of threads in going over seams.

3d. No imperfect action of the feed at uneven places in the work.

4th. The Weed-stitch catches of itself, and will sew from the finest lace to the heaviest leather, and 200 cotton to coarse linen thread.

5th. The Weed Machine will do beautiful quilting on the bare wadding, without using inner lining; thus leaving it soft as if done by hand.

6th. The variety of fancy work that can be done on the

WEED MACHINE,

with so little trouble, makes it equal, if not superior, to six machines combined; for instance. it Binds, Hems, Tucks and Sews on the band at the same time, and in face, the

WEED NO. 2 MACHINE,

as before stated, is equivalent to a combination of any six ordinary machines.

Orders for Machines may be sent through the American Advertising Agency, 389 Broadway, N. Y.

Below we give a few prices:

No. 2. Oil Black Walnut, Ornamented with Hemmer.	$60,00
No. 2. Oil Black Walnut, Hall Case, Ornamented, with Hemmer.	65,00
No. 3. Extra Oil-Polished Black Walnut, Half Case, Large Table beautifully Ornamented.	75,00

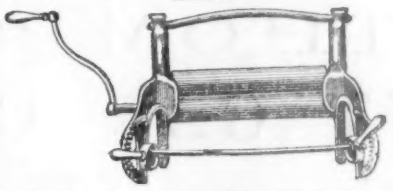
WEED SEWING MACAINE Co.,

136) 506 Broadway, New York.

PUTNAM'S CLOTHES WRINGER.

IT IS THE ONLY RELIABLE

Self-Adjusting Wringer.



No Wood-work to Swell or Split. No Thumbscrews to get out of order. Warranted with or without Cog-wheels.

It took the First Premium at Fifty-seven State and County Fairs in 1863, and nearly double that number in 1864, and is, without an exception, the *best* Wringer ever made. Patented in the United States, England, Canada, and Australia. Agents wanted in every town, and in all parts of the world. Energetic agents can make from $3 to $10 per day.

WHAT EVERYBODY KNOWS, VIZ.:

That Iron well galvanized *will not rust.*

That a *simple* machine is better than a complicated one.

That a Wringer should be *self-adjusting, durable, and efficient.*

That thumb-screws and fastenings cause *delay* and *trouble* to regulate and keep in order.

That wood soaked in water will *swell, shrink,* and *split.*

That wood-bearings for the shaft to run in *will wear out.*

That the Putnam Wringer, with or without cog wheels, will *not tear the clothes.*

That cog-wheel regulators are not essential.

That the Putnam Wringer has *all* the advantages, and *not one* of the disadvantages above named.

That all who have tried it pronounce it the *best* Wringer ever made.

That it will wring a thread or a bed-quilt *without alteration.*

We might fill the paper with testimonials, but insert only a few to convince the skeptical, if such there be; and we say to all, *test* Putnam's Wringer. Test it *thoroughly* with *any* and any others, and if not entirely satisfactory, return it;

PUTNAM MANUFACTURING CO.—*Gentlemen:* I know from practical experience that iron well galvanized with zinc will not oxydize or rust one particle. The Putnam Wringer is as near perfect as possible, and I can cheerfully recommend it to be the best in use. Respectfully yours,

JOHN W. WHEELER, Cleveland, O.

Many years' experience in the galvanizing business enables me to indorse the above statement in *all particulars.*

JOHN C. LEFFERTS, No. 100 Beekman St.

NEW YORK, *January,* 1864.—We have tested Putnam's Clothes Wringer by practical working, and know that it will do. It is cheap; it is simple; it requires no room, whether at work or at rest; a child can operate it; it does its duty thoroughly; it saves time, and it saves wear and tear. We earnestly advise all who have *much* washing to do, with all intelligent persons who have *any,* to buy this Wringer. It will pay for itself in a year at most. HORACE GREELEY.

PRICES—$8, $9, and $10.

Sample Wringers sent, express paid, on receipt of price.

Manufactured and sold, wholesale and retail, by

PUTNAM MANUF'G CO.,

13 PLATT STREET, New York,

BENNINGTON, Vt.,

CLEVELAND O.

WATER AND GAS PIPE.

The Boston Bituminized Pipe Company,

Are now manufacturing and prepared to take orders, for their PATENT PIPE, (from 2 to 12 inches in diamter,) as a substitute for Iron, Copper, Lead, &c., for the conveyance of WATER, GAS, SEWERAGE, &c. &c.

From the testimonials received, and the entire satisfaction it has given those having it in use, we feel warranted in claiming for this pipe over that of any other, the following advantages, viz.:

It is much CHEAPER—has great strength (it having been tested to 500 lbs. to the square inch,) combined with LIGHTNESS, costing less for transportation; the joints are easily made and perfectly tight; it does not expand or contract from different degrees of temperature, and is free from *CORROSION* or *CONCRETIONS* forming; does not impart any taste or injurious properties to water, and as far as anything can be said to be indestructible, we deem this to be.

As a GAS PIPE, we say it has no superior. The Lowell Gas Light Co., purchased and laid some of this Pipe last year, and have likewise subjected samples to a test of four month's duration in their dry lime purifiers, with the most satisfactory results, in fact establishing beyond a doubt, its perfect adaptation to the wants and requirements of Gas Companies, specimens of which, together with the statement of O. E. Cushing, Esq., Agent Lowell Gas Light Co., who made these experiments. I shall be pleased to show, and give all other needed information, by applying in person, or by letter, to JOHN L. WEBSTER, Treas.,

Boston Bituminized Pipe Co.,

127] No. 2 Pearl st. House, Boston.

AMBROSE SPENCER GILCHRIST.

(LATE CAPT. U. S. V.,)

CIVIL, MINING

AND ARCHITECTURAL ENGINEER,

No. 200 BROADWAY, Office 12.

New York.

New York, April 18*th*, 1864.

* * * * * *

We respectfully invite your attention to and consideration of the justly celebrated and reliable remedy for DYSPEPSIA, HEARTBURN, DEBILITY and PROSTRATION. The Proprietors are proud to acknowledge the unparalleled success which has attended the sale of their valuable preparation, known in nearly every portion of the civilized world as the

"GOLDEN BITTERS."

We risk nothing when we term them a *valuable preparation,* for they are one of the few articles of the present day which are not a humbug; and we are willing and able to satisfy any person or persons who will call upon us, that the celebrated "GOLDEN BITTERS" are a genuine *bona-fide hygienic* article. It is the wish of the proprietors that the virtue of the article be tested before condemning. A decision of their merits by any one who has tried them, is worth a million of purchased bogus testimonials.

For Creating a Healthy Appetite

they are invaluable, and are unequalled as a TONIC. They are mild in their action, and operate by giving *vigor* and *strength* to the system,—not by any change they produce in the solids, but through the medium of the living principle.

They are Purely Vegetable,

being composed of Gentian Root, Calamus, Sassafras, and many other remedial agents of the Vegetable world, all preserved in Jamaica Rum and Sherry Wine.

As a Beverage,

They are the most *wholesome, invigorating* and *palatable* stimulant ever offered to the public. And the fact of their being prepared chemically and scientifically, precludes the possibility of a bitter, unpleasant taste, common to Bitters generally offered for sale. We especially recommend them to LADIES, and particularly to those suffering from

DEBILITY, WEAKNESS, AND PROSTRATION.

Half a wine glass of these "Bitters" three or four times a day, will produce a remarkable healthy change in persons greatly debilitated.

The "Golden Bitters" have been tried and not found wanting. They are put up in our own *Patent* quart bottles, and for sale by Druggists, Grocers, &c., throughout the world. Each bottle bears a fac-simile of the signature of Hubbel & Co.

GEO. C. HUBBEL & Co., Sole Proprietors.

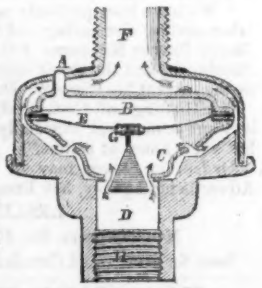
CENTRAL DEPOT, American Exp. Building, New York.

THE GOLDEN BITTERS.—We are not an advocate of stimulants of an alcoholic character; indeed we deprecate this "daily tonic" idea—this "morning toddy" which we see offered in all sorts of shapes as a recuperator, invigorator, revitalizer, &c. As a rule all artificial stimulants are dangerous remedies, and must be taken into the system as you would mercury or arsenic, in very small doses. But we have had an opportunity to try the now well-advertised article known as Hubbel's Golden Bitters, and are frank to say that where the system needs building up, where a stimulant is required to aid nature in restoring a lost appetite and infusing a vigorous action to the debilitated functions, we can recommend these Bitters. Hubbel's Golden Bitters are evidently intended to improve the debilitated human system, rather than to tickle the palate, and are, therefore a harmless and safe remedy o keep in the house.—*New York Weekly Day Book.*

NOTICE TO GAS COMPANIES AND GAS CONSUMERS

THOMPSON'S PATENT GAS CONTROLLER,

The only Self-Acting Gas Controller, Regulator, and Burner Combined which has ever been invented, or known to science.



THE PRINCIPLE UPON WHICH THE THOMPSON'S AUTOMATIC GAS CONTROLLER works is one well known to mechanics, and is simple in its operation.

Within the circumference of a small cylinder below the burner is placed a conical valve attached to a movable diaphragm. The diaphragm rises or falls as the pressure of gas from the pipe is lesser or greater, and the valve acts upon the valve-seat with such regularity of movement that in a difference of from five-tenths of an inch pressure to five inches the variation in flame is hardly perceptible.

The simplicity of its machinery and the nature of the material used in its construction insure its regular action and durability.

In consequence of the uniform quantity of gas which passes the Controller to the burner, there is no waste, and a steady, soft flame is produced, which is important to all who read, write, or work by gas-light. The unsteady flickering blaze which invariably exists when the pressure of gas is beyond the requisition for consumption, has injured the sight of thousands who have been subjected to it.

For street lamps these Controllers are especially valuable, because the pressure varies materially during the night, and in consequence there is a waste of gas, and the light variable.

Improvements have lately been made in the mechanism of the Controller which makes them almost a perfect meter to each burner, and they are now offered to the public with more confidence than ever before.

Reference is permitted to the following named gentlemen—

Col. CHAS. ROOME, President Manhattan Gas Company, N. Y.
C. H. SANDS, Esq., President Metropolitan Gas Company, "
J. H. ADAM, Esq., President New York Gas Company, "
PETER COOPER, Esq., Cooper Institute, "
JOHN A. DUFF, Esq., Olympic Theatre, "
GEO. H. KITCHEN, Inspector of Gas Meters, N. Y.
A. L. BOGART, Esq., Gas Engineer.
Col. J. A. SABATTON, Engineer Manhattan Gas Company.
Col. A. J. WHITE, Engineer Metropolitan Gas Company.
J. K. SIMPSON, Esq., Engineer Cooper Institute.

Persons interested are invited to call at the Office, 111 Pearl street, where they can see the operation by pressure guage and test meters

M. L CALLENDAR, Agent

Office, 111 PEARL STREET.

THE AMERICAN METER CO.

Organized under the General Manufacturing Laws of the State of New York.

SAMUEL DOWN, PRESIDENT. HENRY CARTWRIGHT, VICE PRESIDENT. RICHARD MERRIFIELD, SECRETARY AND TREASURER

TRUSTEES.

SAMUEL DOWN, WILLIAM HOPPER, R. H. GRATZ, HENRY CARTWRIGHT, RICHARD MERRIFIELD.
THOMAS C. HOPPER, *Superintendent at Philadelphia.*

This Company is now prepared to furnish WET AND DRY GAS METERS, STATION METERS, GOVERNORS, PRESSURE INDICATORS & REGISTERS, SERVICE and METER COCKS, and all other articles in their line appertaining to the use of Gas-Works.

The combination of Mechanical and Scientific Skill, and the long experience of the several members of the Company, is a sure guarantee of durab ility, and excellence of workmanship. Orders addressed

AMERICAN METER COMPANY,

512 WEST TWENTY-SECOND STREET, NEW YORK,
ARCH AND TWENTY-SECOND STREETS, PHILADELPHIA,
No 23 WEST STREET, BOSTON, will meet with prompt attention.

HARRIS & BROTHER, PRACTICAL GAS METER MANUFACTURERS,

Continue, as heretofore, at their old Establishment, **No. 1117 CHERRY ST., PHILADELPHIA,** to Manufacture

WET AND DRY GAS METERS, and all kinds of GAS APPARATUS, and furnish all articles appertaining to the use of Gas Works. ☞OUR WORK WARRANTED—Satisfaction Guaranteed. Orders respectfully solicited, and promptly attended to, by

HARRIS & BRO., No. 1117 Cherry st., Phila.

Messrs. Harris & Brother, Philadelphia Gas Works, February 14, 1857.

Dear Sirs—I take great pleasure in stating that we have found your meters to register with entire correctness, and to be generally of very good quality; the number furnished by you to these works is over 5,000.

JOHN C. CRESSON, Engineer.

Office of the Gas Light Company of Augusta, Ga., March 6th, 1858.

This is to certify that having used meters manufactured by Messrs. Harris & Bro., for the last nine years, we do not hesitate to state they have given entire satisfaction in point of workmanship and accuracy of registration; they are surpassed by none, and equalled by few manufactories in the Union; we have used meters made by other establishments, but our preference is in favor of those made by Harris & Bro., of Philadelphia, Pa.

G. S. HOOKEY, Superintendent of the Gas Light Company of Augusta, Ga,

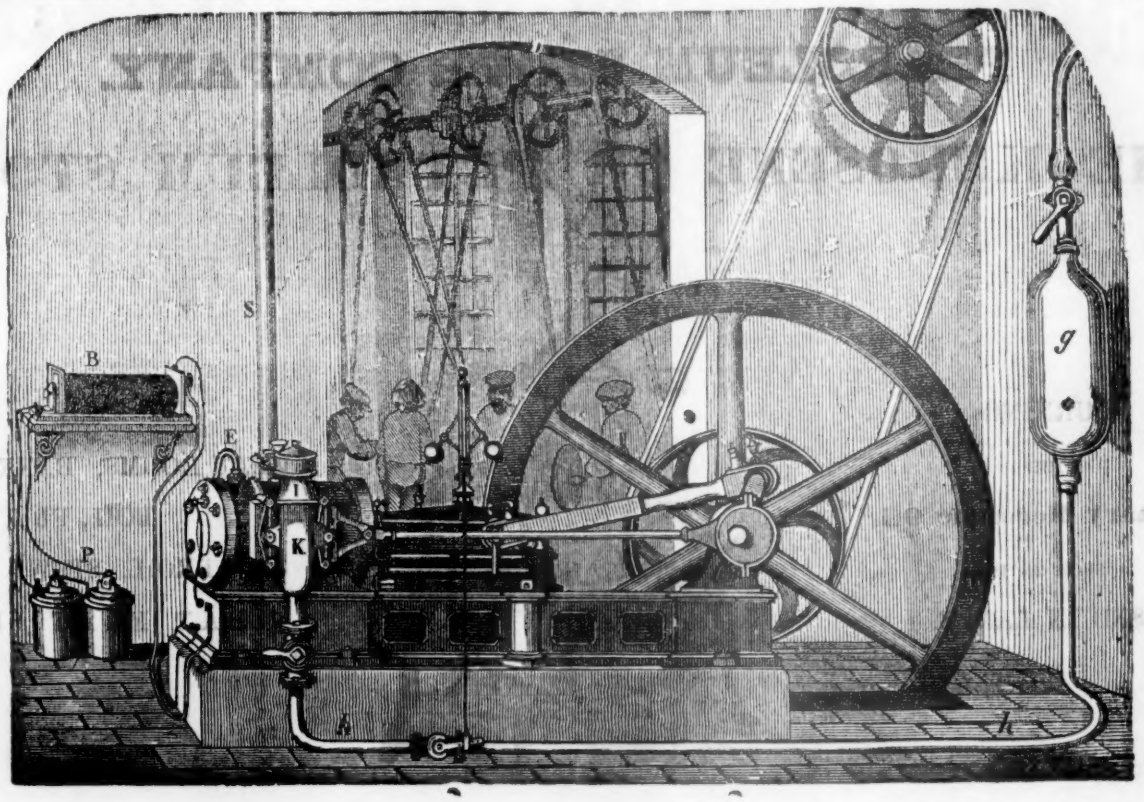
Messrs. Harris & Brother, Philadelphia. Philadelphia, March 4, 1858.

Gentlemen—We take great pleasure in bearing our testimony to the very superior character of the meters we have received from your establishment. We have always found the workmanship all we could desire, while the accuracy and reliability of their measurement have always been satisfactory. We have used meters made by other parties, and none have given as entire satisfaction as those received from you. We are, gentlemen, very truly, yours, BIRKINBINE & MEARS.

Messrs. Harris & Brother. March 14, 1857

Gentlemen—For the last ten years we have used in the Philadelphia Gas Works, meters made in your factory and take pleasure in expressing my opinioni to their correctness. On several occasions I have taken your meters apart, and found the materials used in the manufacture of the same to be as fine quality as used in those imported from Europe, or made by any of the manufacturers in the United States.

Respectfully Yours, GEORGE WIEGAND,
spector of GasFittings, Philadelphia



MOTEUR—LENOIR.

LENOIR GAS ENGINE.

This is a horizontal engine, in which a piston, by a connecting rod drives a horizontal shaft.

The gas enters by the pipe "h" from the regulating reservoir "g," (made of vulcanized india rubber,) which regulates the feeding and the branches connected with the gas-pipe.

The tube, K, receives the gas conveyed by the pipe "h," and conducts it to the valve, which opens and closes alternately, by means of a rod moved by an eccentric wheel fastened to the end of the shaft.

Two of Bunsen's piles, P, sufficient to produce the electricity are placed at a little distance from, and in communication with a Ruhmkorff electric apparatus, B. The electric current of this apparatus is conducted by means of insulated wires to the electricity distributor "m," placed on the front of the frame, while the current of electricity and its arrival at the inflammator, inserted at each end of the cylinder, is directed by the movement of the piston-rod, which, by an ingenious combination, impels a small movable slide before the distributor.

The burnt gas, after having performed its functions in the machine, escapes, by means of a valve, through a pipe, S, and the water designed to cool the interior of the cylinder enters through a double passage, by means of a pipe situated near the escape-valve, and goes out by the pipe, E.

A two horse and a half horse Engine are now in practical operation at the Dry Dock Iron Works, No. 435 East Tenth street, near East River, New York, where they are being manufactured, and those interested are invited to call and examine them.

THE LENOIR GAS ENGINE

Requires no Fire and makes no Smoke,

No Noise, no Dirt, and is thoroughly safe.

It is propelled by the expansion of Air, dilated by the combustion of Gas within the cylinder, ignited by the

ELECTRIC SPARK

PETROLEUM STOVE COMPANY.

THE KEROSENE OR PETROLEUM STOVE.

BURNING

THE

Ordinary Kerosene Oil,

SUCH AS IS

USED IN LAMPS.

WILL

HEAT ROOMS, BAKE, ROAST,

BOIL, FRY,

BROIL, STEW, AND

HEAT FLAT IRONS.

This is the ONLY STOVE, yet invented, which burns the common Kerosene, or Petroleum Oil, WITHOUT A WICK and is capable of doing all the COOKING, BAKING, WASHING and IRONING of a large family, as quickly as any coal or wood stove—is neat in appearance, and clean, MAKING NO DIRT OR ASHES—requires no room for stowing wood and coal, is light and portable, and may be used in any convenient place in or out of the house, and is guaranteed to be perfectly safe and free from explosion. This Stove must not be confounded with other Stoves offered under the name of Petroleum Stoves, which do not, and cannot, under any circumstances, burn the ordinary Kerosene, or Petroleum Oil, but burn Naptha, an article as dangerous as gunpowder, in the hands of persons unacquainted with its properties.

☞This Stove is now in use in the Refreshment Saloon at the Fair of the American Institute. Also, may be seen in operation at the Office of the Petroleum Stove Co., 171 Broadway, Room 12, where Orders will be received, and State and County Rights disposed of on liberal terms.

NATHANIEL FORD, Sec'y. *S. T. McDOUGAL, Pres't.*

GROVESTEEN & CO.,

PIANO-FORTE MANUFACTURERS.

499 BROADWAY, NEW YORK.

The attention of the public and the trade is invited to our New Scale Seven Octave Rosewood Piano-Fortes, which for volume and purity of one are unrivalled by any hitherto offered in this marked. They contain all the modern improvements, French, grand action, harp pedal, iron frame, over-strung bass, etc., and each instrument being made under the personal supervision of Mr. J. H. Grovesteen, who has had a practical experience of over thirty years in their manufacture, is fully warranted in every particular.

THE "GROVESTEEN PIANO-FORTE"

Received the highest award of merit over all others at the Celebrated World's Fair!

where were exhibited instruments from the best makers of London, Paris, Germany, Philadelphia, Baltimore, Boston, and New York; and also at the American Institute for five successive years, the gold and silver medals from both of which can be seen at our warerooms.

By the introduction of improvements we make a still more perfect Piano-Forte, and by manufacturing largely, with a strictly cash system, are enabled to offer these instruments at a price which will preclude all competition.

PRICES.

No. 1, Seven Octave, round corners, Rosewood Plain Case, $275.
No. 2, Seven Octave, round corners, Rosewood Heavy Moulding, $300
No. 3, Seven Octave, round corners, Rosewood Louis XIV, style $325, a fac-simile of the accompaning cut.

TERMS—NET CASH, IN CURRENT FUNDS. Descriptive Circular sent free.